



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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D. K. MINOR, EDITOR.]

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AMERICAN RAILROAD JOURNAL.

NEW YORK, JANUARY 2, 1836.

Subscribers to the Journal who desire to obtain missing numbers, will please let us know as early as possible, that we may supply such as we may be able, from the few saved from the fire. A statement of the missing numbers should accompany the subscription for the fifth volume in advance.

With this number, it will be perceived that the Railroad Journal completes its 4th volume.

The work was undertaken at a period when very little, comparatively, was known in this country, except to a few Engineers, in relation to Railroads. The project was deemed, by most persons, as entirely visionary, and the idea of a Journal devoted to Railroads, was ridiculed by many. It was, however, believed by its projector, that the period was at hand, when the people of this country would view the subject of Internal Improvement, and especially of Railroads, in a more favorable light than at that period—and therefore a work of the kind would, most certainly, be useful to the country, and probably afford, at least, a return of the necessary investment to get it into circulation. Under this impression, the work was commenced January 1st, 1832, and has been continued regularly, until the present period, four years, with the exception of the delay caused by the late con-

flagration; and (although the subscription list has never yet come up to a thousand,) fifteen hundred copies of it have been regularly published, that the work complete, might be within the reach of those who desired to have it.

The publication of an edition so much larger than the subscription list, caused the expenditures, for the first three years, materially to exceed its income; but it was believed that the investment was at least a safe, if not an immediately profitable one; and so it would certainly have proved, as can be shown by the sale of back volumes, during the last year, but for the unparalleled calamity, which so many, in common with the proprietor of this Journal, will long have cause to remember. By that calamity, however, it has proved almost a total loss, as nearly the whole edition remaining on hand, or 400 complete sets, were entirely destroyed by the fire, leaving probably, not to exceed forty complete sets of the work unsold, and those mainly, scattered about the country, in the hands of agents—which are to be collected, before complete sets can be supplied.

In consequence of the inadequacy of the price, to meet its expenses, it was, after due deliberation and consultation, deemed advisable to increase the price to \$5 per annum, and then to make the work equal to the price, in preference to reducing the size to 8 pages, as was at one time contemplated. In accordance with that decision, the Journal will hereafter be charged at FIVE DOLLARS per year, instead of three dollars, as heretofore.

Such, indeed, have been my losses by the fire, that it is now highly essential to the continuance of the Journal, that the subscription for the ensuing year at least, should be paid in advance—and that all arrearages should be promptly paid.

The present number is to be considered a specimen of the work as it is to appear during the ensuing year, and as such it is sent to those who are, and to some few who are not, now subscribers to it, with the request that each gentleman who receives it, and who is willing to aid me in regaining, by my own exertions, what I have lost by the conflagration, will do something to extend its circulation.

The work must and will be continued, and as I have relinquished the publication of the New-York AMERICAN, with which I was connected over ten years, with a view of devoting myself exclusively to my periodicals, I shall be able to render them, and especially this Journal, more worthy of patronage, therefore every friend of Internal Improvement is requested to aid in its circulation, and support. D. K. MINOR.

New-York, January, 1836.

Editors of newspapers, who will call attention to the Journal, or publish the prospectus on the last page, and if they please, send their paper, may rely upon receiving the Journal hereafter in exchange.

SYRACUSE, COURTLAND, AND BINGHAMTON RAILROAD.—We find in the "Onondaga Chief," of the 6th inst., published at Syracuse, and publish, omitting the names, an account of the proceedings of the Convention held at COURTLAND VILLAGE, on the 24th of December, in relation to the contemplated Railroad from the Erie Canal at Syracuse, to the New-York and Erie Railroad at Binghamton. This Convention was, as might have been anticipated, and as we know from the list of names published, attended by a large number of the most respectable inhabitants of the counties of Onondaga, Cortland, and Broome—together with many others equally respectable from other counties adjoining.

This route is not only one of the most

feasible, but also one of the most important lateral Railroads in the State. It will not only pass through one of the most fertile, but also one of the levellest (save in one place) routes in the State. It is also the natural route for the exchange between New-York and Pennsylvania, of salt and gypsum on the one part, and coal on the other. It is also the most direct, and will eventually become the common, route between a large portion of the interior and the Commercial Emporium of the State; and it is only surprising to us that the intelligent, and enterprising inhabitants, of the country through which it will pass, have so long slept upon so important an enterprise. It only shows the want of correct information, in relation to the importance, and superiority, over other modes of travel and transportation, of RAILROADS. There can be no doubt in the minds of those who are familiar with their advantages, that they are destined to produce as great, and even greater, changes in the mode of doing business on land, as the application of steam to navigation has on the water. Indeed, the time is not distant when all the great thoroughfares of this country will be traversed by Railroads; and it will be as common for a man of business to travel two hundred and fifty or three hundred miles a day, as it now is for him to be two, or three days in travelling one hundred miles—through the mud. It will not then be thought more of, by the people of the interior, to visit the city of New-York, Buffalo, Oswego, and Dunkirk, or Portland, than it now is to visit the seat of justice, in the county where they reside; and what is of still greater, if possible, advantage to them, the improved facilities for business will in an equal ratio increase the value of property through the country.

In order, however, to realize these important advantages at the earliest possible period, information must be disseminated widely among the people. They must be made to feel and to realize the truth in relation to Railroads. They must be convinced, as they will be ere long, that, instead of being impassable in winter, they are more easily cleared, and kept clear, of snow than common roads. It must be recollected that they possess the most powerful apparatus for clearing the track, as has been abundantly proved by late experiments on the Camden and Amboy Railroad, according to the following extract from the "Courier and Enquirer" of the 13th, which says: "We were in error yesterday, in stating that the passengers by the Railroad line left Philadelphia on Sunday, at 12 o'clock, and did not arrive here until Monday evening at 8. It appears that they left Camden, opposite Philadelphia, at 9 o'clock on Monday, and were landed six hours afterwards in this city. We hasten to make the correction, with the remark, that nothing but the most indefatigable exertions on the

part of the proprietors, agents, and officers of this line, could have succeeded in clearing the track of such an immense body of snow, and keeping up an uninterrupted daily communication from city to city, as it has done, without the loss of a single trip, from the opening of the Road in 1832, to this day." It is indeed as much more powerful for that purpose, as it is for rapid travelling when the Road is clear. No one will pretend to deny that there has been, and probably will be again, days and storms so severe as to prevent travelling on Railroads, even as there are in the course of almost every winter, which prevent travel on any road; yet such days are few, and cannot be used as an argument against Railroads, any more than against common roads. It may therefore be assumed that prejudice will give, has already indeed given, way to a more correct state of feeling—and the day is near at hand, when the inhabitants on the route of this Road will be surprised that they have so long omitted, or delayed, a work of so much importance and convenience to them; and that they have so long waded, almost wallowed, through the mud of the "Indian woods."

This will be one of the most important among numerous other lateral Roads, which will connect the New-York and Erie Railroad with the Canal and the Lakes—this Road will undoubtedly be extended north from Syracuse into Jefferson and St. Lawrence counties, thereby making Syracuse the most central place in the State.

From Syracuse for about eighteen miles there is a gradual ascent of 10 to 20 feet per mile, to Tully. In this town there is an ascent, within the distance of 1 $\frac{1}{4}$ th mile, of about six hundred feet—which passes the ridge dividing the waters which flow into Lake Ontario, and into the Susquehannah River.

At this point there must be an inclined plane, with stationary power; and that nothing apparently should be wanting to render the route one of the most eligible in the country, this stationary power is supplied by never-failing springs of sufficient magnitude, which furnish several valuable mill seats—one of which might be used instead of a stationary engine. When the summit is attained, there is a gentle descent of from ten to twenty feet per mile to Binghamton, through a country every way eligible for the construction of a Railroad.

With such advantages, and the certainty of an early completion of the great New-York and Erie Road, and a fair prospect of a ready communication with the coal region of Pennsylvania, the inhabitants residing on, and near the route, will beyond all question press this work forward, so as to have it completed at least as early as to meet the New-York and Erie Road when it shall be completed to Binghamton.

SYRACUSE, CORTLAND, AND BINGHAMTON RAILROAD CONVENTION.

At a Convention of delegates from the several counties on and adjacent to the route of the proposed "Syracuse, Cortland and Binghamton Railroad," convened pursuant to public notice, at the Court House in Cortland village, on the 24th of December, the Hon. WILLIAM BARTLIT, was called to the Chair, pro tem., and HORATIO BALLARD appointed Secretary. On motion of H. S. Randall, of Cortland,

Resolved, That a Committee of three be appointed to receive the credentials and collect the names of the delegates in attendance. The chair named the following Committee:—

Henry S. Randall, of Cortland,
Vincent Whitney, of Broome,
V. W. Smith, of Onondaga.

The names of over 300 delegates were taken, which it was believed were not the one half of those in attendance. It was however impossible to get them all in time, and the Convention proceeded to business as follows:—

On motion of Mr. Stephens, of Cortland, Resolved, That a Committee of ten be appointed by the Chair to report the names of suitable officers to preside at the Convention.

Whereupon the following persons were named said Committee:—

George Park, } of Binghamton.
Christopher Eldridge, }
Elam Lynds, } of Syracuse.
Harvey Baldwin, }
Cadring Jackson, } of Lisle,
John H. Hooker, } Truxton,
Jonathan L. Woods, } Cortland,
Fredus Howard, } Preble,
William Andrews, } Homer,
Alva Jarvis, } S'th Cortland.

Mr. Park from the Committee reported the names of the following officers, which on motion of Mr. Smith, of Onondaga, were unanimously adopted:—

ELAM LYNDS, of Onondaga, President.
John Miller, Cortland, }
J. Southard, Tompkins, } Vice
Horatio Collins, Tioga, } Presidents.
Elihu Ely, Broome, }
S. S. Forman, Onondaga, }
Daniel S. Dickinson, Broome, } Secreta-
Harvey Baldwin, Onondaga, } ries.
Horace White, Cortland, }

On motion of Mr. Waterman, of Broome, Resolved, That a Committee of three be appointed to draft resolutions expressive of the views of the Convention, in relation to the objects for which it is assembled.

The following gentlemen were named said Committee:

Thomas G. Waterman,
Henry S. Randall,
Jonathan L. Woods.

Mr. Waterman from the Committee reported the following resolutions:

Resolved, That we regard the present condition, and anticipated progress of the great system of Internal Improvement, by Canals and Railways in the State of New-York, not only as justifying on the part of our citizens feelings of honorable pride and exultation, but as leading in its results to

the unexampled wealth and prosperity of the State.

Resolved, That the Erie and Champlain Canals on the north, and the New-York and Erie Railroad now in progress through the southern counties, are to be regarded only as the main arteries of internal communication between the great Western Lakes and the Atlantic, and that they afford vastly increased inducements through all the intervening sections of the State, to both public and private enterprise, to supply the minor and connecting veins in the general system.

Resolved, That among the works now in progress, or in contemplation, to unite these great commercial arteries, the one now proposed, and submitted to our consideration, that of a Railway from Syracuse to intersect the New-York and Erie Railroad, at or near Binghamton, is of commanding importance, whether regarded in reference to the profits of investment, or its convenience and utility to citizens on its route.

Resolved, That the friends of the grand system of internal improvement which has distinguished New-York, have abundant cause for congratulation in the commencement of the New-York and Erie Railroad, the great thoroughfare which is emphatically destined to give life, wealth and prosperity, to a section hitherto secluded, and virtually bring the fertile regions of the south and west to the confines of the great commercial emporium.

Resolved, That the Corresponding Committee prepare a petition to our Legislature for the required act of incorporation; that the petition be signed by the officers of the Convention, and be presented to the Legislature at the opening of the Session.

Resolved, That the name of the corporation to be so applied for, shall be "*The Syracuse, Cortland and Binghamton Railroad Company*," that the petition ask for a grant having Syracuse and Binghamton in view as points of termination, and that, as intermediate places to be named in the bill, as fixed points on the route, shall be both the villages of Homer and Cortland.

On motion, Resolved, That the sense of the Convention be taken on each of the resolutions separately. The 1st and 2d resolutions passed unanimously. On the reading of the 3d, Mr. Montgomery, of Tompkins, moved to amend the resolution, by striking out the words "to intersect the New-York and Erie Railroad at or near Binghamton," and substitute the following: "to strike the Susquehanna River by the most feasible route."

The Chair decided the motion was out of order.

Mr. Montgomery said he most earnestly desired that the amendment might be submitted to the decision of the Convention. There was another route than the one named in the resolution, which might be found to answer the same general objects, which he believed more feasible, viz: one passing through the south part of Virgil, Dryden, &c., and ending at Owego.

Mr. Guinnip, of Tompkins, concurred in the views of his colleague, and hoped the

amendment might be submitted to the Convention.

Mr. Whitney, of Broome, reminded the gentlemen from Tompkins that the motion had been pronounced out of order: if they were unwilling to acquiesce in the decision, their course was a plain one; they must appeal from it to the Convention.

Mr. Montgomery appealed from the decision of the Chair.

Messrs. Waterman, Dickinson and Whitney, of Broome; Messrs. Stephens and Canfield, of Cortland; Mr. Baldwin, of Onondaga, opposed, and Messrs. Montgomery and Guinnip supported the appeal.

The Chair explained; that having assembled under a call addressed to the friends of a specific object, and delegated, therefore, to act only in reference to that object, it was obviously beyond the powers of the Convention to entertain extraneous and adverse propositions to the original one, as the "friends" of which they had assembled.

The question on the appeal was then put, and the Chair sustained without a count. The question recurring on the passage of the resolution (3d), it was put and carried unanimously.

The 4th, 5th and 6th resolutions were read and passed unanimously. On the reading of the 6th, Mr. J. Miller, of Cortland, moved to amend, by striking out the word "Homer," and conforming the phraseology of the resolution to the omission.

Mr. Miller said he was willing to have Syracuse, Cortland and Binghamton as fixed points on the route of the proposed Road, but he lived on another branch of the Tioughnioga, the valley of which presented many perhaps equal facilities for the construction of such a Road, with that of the west branch, on which Homer stands. There was nothing, he contended, in the amendment adverse to the objects of the Convention.

Mr. Ross, of Cortland, opposed the amendment, and it being put, was lost, without a count: The original resolution (6th) then passed unanimously.

Messrs. Southard and Collins desired to be excused from acting further as officers of the Convention, which, on motion of Mr. Stephens, of Cortland, was unanimously agreed to. The Hon. SAMUEL G. HATHAWAY, and the Hon. WILLIAM BERRY, of Cortland, were nominated and appointed unanimously, to supply the vacancies.

On motion of Mr. Whitney, of Broome, it was

Resolved, That the Legislature be petitioned to cause the route of the proposed Road to be surveyed at the expense of the State.

On motion of Mr. Smith, of Onondaga, it was

Resolved, as the sense of this Convention, that the Legislature of this State may safely adopt the principle of granting Railroad charters to incorporated Companies upon liberal terms, whenever the citizens of different sections manifest a disposition to unite their means and efforts for effecting public improvements of that character.

On motion of Mr. Waterman, of Broome, it was

Resolved, That a Committee of three be appointed, to be known, and to act as the "Syracuse, Cortland and Binghamton Railroad Central Corresponding Committee."

On motion of Mr. Baldwin, of Onondaga, it was

Resolved, That the draft of a bill to incorporate the "Syracuse, Cortland and Binghamton Railroad Company," be referred to the Central Corresponding Committee, and that they be instructed to fill up blanks, &c.

The Chair announced the names of the following gentlemen to compose the

Central Corresponding Committee.

WILLIAM BARTLIT, }
ADIN WEBB, } *Cortland Village.*
HENRY S. RANDALL, }

On motion of Mr. Stephens, of Cortland, it was

Resolved, That a Corresponding Committee of three be named by the Chair in each of the places on and adjacent to the route of the proposed Road, as he may deem proper.

The Chair announced the following as such Committees:

Corresponding Committees.

Syracuse—V. W. Smith, Harry Raynor, James Manning.

Onondaga Hollow—Thaddeus Patchin, T. M. Dorwin, Samuel S. Forman.

Jamesville—L. W. Brewster, G. H. Richardson, G. W. Holbrook.

La Fayette—Ebenezer Colman, John Spencer.

Tully—H. F. King, Nichol Howell, Eli Earnham.

Preble—Fredus Howard, P. H. Burdick, Joseph Crofoot.

Homer—Horace White, E. C. Reed, A. Donnelly.

Cortland—C. Marsh, E. W. Edgecomb, Henry Stephens.

Truxton—D. Matthews, N. V. Allen, A. W. Otis.

Solon—S. G. Hathaway, D. Copeland, R. Rice.

Virgil—Wm. Woodward, R. Edwards, S. Roe.

Freetown Corners—C. Richardson, W. Birdsall, J. M. Roe.

Marathon—G. E. Peck, A. Carley, E. Perkins.

List—P. B. Brooks, J. Stoddard, jr., C. Salisbury.

Whitney's Point, (Triangle)—Thomas Whitney, G. Collins, J. D. Smith.

Binghamton—Tracy Robinson, J. S. Bosworth, Julius Paige.

On motion of Mr. Andrus, of Cortland, it was

Resolved, That the proceedings be signed by the officers of the Convention, and that the several newspapers on the route of the proposed Road, the Albany Argus, Evening Journal, N. Y. Times, American, and Courier & Enquirer, be requested to publish them.

On motion of Mr. H. S. Randall, of Cortland, it was

Resolved, That the thanks of the Convention be presented to its officers, for the able and dignified manner in which they have presided over its deliberations.

On motion of Mr. J. S. Bosworth, of Broome, the Convention then adjourned sine die.

ELAM LYND, President.

JOHN MILLER,

ELIHU ELY,

SAMUEL S. FORMAN,

SAMUEL G. HATHAWAY,

WILLIAM BERRY,

D. S. DICKINSON,

H. BALDWIN,

H. WHITE,

V. Pres'ts.

Secretaries.

OFFICE OF N. Y. & ERIE RAILROAD CO.
New York 14th Dec. 1835.

To His Excellency WILLIAM L. MARCY,
Governor of the State of New York:—

I have the honor, in behalf of the Directors of the New York and Erie Railroad Company, to transmit herewith, for the consideration of the Executive authority of this State, sundry documents, showing the situation of the enterprise in which they are engaged.

The interest which the progress of this work has excited in very extensive and important districts of the Commonwealth—the manifestations of public opinion, as exhibited by the proceedings of the Common Council of this city, and by the Convention of the southern and middle counties at Oswego, and the extent of the enterprise, embracing the whole territorial length of the State—coupled with the right reserved by law, to take the work for public use at a comparatively early period after its successful operation shall have proved its value—seem all to concur in rendering it proper, that the Chief Magistrate should be kept apprised of the progress of an enterprise, affecting so permanently and deeply the general welfare.

The particular details in respect to the prosecution of the work, will be found in the First Annual Report made by the Directors to the Stockholders, a copy of which is herewith furnished. To the facts therein stated, the accuracy of which has been verified, in nearly every instance, by the personal examination of the Directors,—the attention of the Executive is respectfully requested. The Board deem it necessary, also to state, that the fifteen members of this body who reside in the city of New York, have no private or personal interests whatever, involved in the prosecution of this work, except so far as they may partake in the public prosperity of this city, and in the expectation that the ultimate success of the enterprise may return to them, in common with all the Stockholders, a revenue affording a fair and reasonable equivalent for the risk which they may encounter, in embarking their funds in the undertaking.

A copy of a Resolution passed by their Board, pledging its members to abstain wholly from any pecuniary speculations in any of the counties traversed by the route, is herewith furnished.

A review of the documents, it is believed, will show, that the Directors have labored assiduously to ascertain whether this work is feasible—whether it will be useful—and at what expense it can be constructed. The two first questions, as to its feasibility and usefulness, necessarily must be governed almost exclusively by the judgment of scientific and experienced Engineers. Although the members of this Board have satisfied themselves, by actual inspection of the route of the road, that the work presents no unusual or formidable difficulties, and that, with a single exception, its construction is singularly favored by the surface of the country, they have nevertheless deemed it their duty, to obtain evidence, from the most competent professional authority, of the ultimate utility of the work, before entering upon its construction. They have therefore submitted, during the present season, the whole plan of the road to the judgment of a Board of Engineers of the highest rank, and they are much gratified to be able now to lay before the Executive, the original Report of those gentlemen—establishing decisively the value of the road, and proving that it will afford the means of constant and rapid transmission of persons and property, at rates of speed, and in quantities, much exceeding previous expectations.

As to the expense of the work, the Board would remark, that the valuable experience acquired within this country during the last few years, has enabled Railroad Engineers to calculate at this

time, with very considerable precision, the cost of construction. Several instances might be adduced, if necessary, of public works in the neighboring States, executed, too, under the direction of the distinguished Engineers who have been called upon for consultation upon the plan of this work, which have been constructed within the sums originally estimated. The Board have never had any reason to doubt the accuracy of the survey, or the safety of the estimates, in respect to the New York and Erie Railroad, submitted at the last Legislature; and, nevertheless, when they regarded the unexampled extent of the work, they could not but await, with some anxiety, the result of their first attempt to obtain contracts for its actual execution. They have, therefore, felt it their duty, to use every means in their power, to detect any errors which might exist in the previous estimates, and for the purpose of subjecting them to a severe test, a section, unusually rugged in character, and sequestered in position, presenting far more than the average rate of expense, was selected as the portion first to be estimated. The result of that experiment is exhibited in the Report of the Executive Committee, presented to the Board during the last month, showing that the graduation of 40 1-2 miles of the road, estimated by Judge Wright at \$366,286, has been actually taken by responsible contractors for \$313,551, being \$52,735 or 14 per cent less than the estimate.

The Board, therefore, have no hesitation in reporting to the Executive, that no reasonable doubt exists as to the ability of the Company to complete the whole of the road, from the tide water to the Lake, with all requisite vehicles, for the amount stated in their Report—and that the sum will not exceed, but will probably fall considerably short of, six millions of dollars. The sum of \$2,362,100 has been already subscribed to the stock of the Company, and will enable them to complete an extensive and profitable division of the work,—but they will be compelled, for the reasons set forth in their Report, to delay the completion of the residue, until the successful accomplishment of a portion shall demonstrate the value of the whole. It is obvious, however, that by this more tardy accomplishment of the work, the great public benefits to be afforded by its completion from the tide water to Lake Erie, must be injuriously postponed, and that it therefore becomes the duty of the Board, to spare no effort to obtain additional funds with the least practicable delay.—They, therefore, deem it proper to communicate to the Executive authority of the State, their intention to apply to the next Legislature, for the requisite aid to enable them to hasten the completion of the work. They propose, however, in view of the heavy advances to which the public Treasury will be subjected in order to improve the Erie Canal, to ask only for a loan of the public credit, to be advanced in instalments, not exceeding in the aggregate three millions of dollars, and only as fast as the Company, with their own means, shall have previously completed continuous sections of the work, sufficiently extensive and valuable, to afford to the State a perfect security against any possible loss or inconvenience.

That such a measure of policy is supported by precedent, is abundantly manifested in the frequent instances referred to in the accompanying documents, in which the neighboring States have loaned their public credit to companies engaged in works of internal improvement within their territory, designed for the very purpose of diverting from this State, and its commercial metropolis, the lucrative trade heretofore enjoyed with the Western States. The liberal and energetic course of legislation thus pursued by those enlightened communities, in fostering those rival works, would seem to render it more peculiarly proper and necessary, that similar measures of protection should be speedily afforded to the citizens of our own State, by those who direct the public councils.

The importance of the New York and Erie Railroad, in connecting the navigable waters of the Hudson with Lake Erie and the Alleghany River, and thereby securing to the city of New York the trade of the West, is fully set forth in the accompanying documents. The Directors charged with the execution of a work so important to the general welfare, therefore venture to express the hope, that its auspicious commencement and hitherto successful progress, may be regarded as a matter of public interest, properly falling within the respect usually submitted by the Executive to the representatives of the people, that the avenue of trade

and intercourse which it proposes to establish through the State, and with the rapidly increasing communities on our western borders, will be looked upon as an improvement calculated to augment the power and elevate the character of the Commonwealth,—and that such efficient measures of assistance, as may be deemed necessary to secure its speediest completion, and not inconsistent with the public interests, may be recommended to the favorable consideration of the Legislature.

I have the honor to be, with great respect, sir,

Your obedient servant,

JAMES G. KING,
President N. Y. & Erie Railroad Co.

CHAMPLAIN AND ST. LAWRENCE RAILROAD.—We find in the Montreal Courier, of December 17th, the proceedings of the half yearly meeting, of the stockholders of the above named railroad, accompanied by the Report of the Committee of Management, and the Chief Engineer. From the Report of the Committee, we make an extract, and publish the Report of the Engineer, Mr. Casey, with the proceedings of the meeting entire, together with some appropriate remarks of the Editor of the Courier.

The remarks of the Engineer and of the Editor, in relation to the benefit which the people will derive, from the expenditure of so much money amongst them, are equally applicable to most other works of the kind.

The plan of doing the work by days, and not by contract, is not common on such works. It may be, however, and we are inclined to think it is, where the people of the vicinity upon whom reliance can be placed, will engage in the work, a matter of economy.

By this report it will be seen that the spirit of improvement is spreading northward as well as southward—who can tell where it will stop?

CHAMPLAIN AND ST. LAWRENCE RAILROAD COMPANY.

At the half-yearly meeting of the Stockholders in this Company, held this day pursuant to public notice, J. E. Mills, Esq., Deputy Chairman of the Committee, opened the meeting with a few preliminary observations, and submitted the Report of the Committee of Management, which was, together with the Report of the Engineer, then read by the Secretary; after which, John Boston, Esq., was unanimously called to the chair, and the Reports were approved of and adopted by the meeting.

The election of a Committee for the ensuing year then proceeded, and Messrs. T. Follet and Charles Lindsay officiating as scrutineers, after examining the ballots, declared the following gentlemen:—

Messrs. Hon. P. McGill, J. C. Pierce, R. Jones, L. B. Ward, J. E. Mills, Jos. Shuter, B. Holmes, T. Bouthiller, and James Logan, re-elected by a large majority of votes.

The Chairman here took occasion, on behalf of the meeting, to convey to these gentlemen the high sense felt by the Stockholders of the value of their services, gratuitously rendered—a stronger expression of which could not be given than in the result of the ballot just declared.

EXTRACT FROM THE REPORT.

We, the Committee of Management of the Champlain and St. Lawrence Railroad

Company, in calling the attention of the Stockholders generally to this our Report of the operations for the past season, deem it expedient to revert to the peculiar circumstances attending the commencement of this undertaking—the very unfavorable season for such operations—the short space of time we have been occupied—and the freedom from litigation in all our engagements; which, taken together, when we reflect on the amount of work done, affords to all interested, ample grounds for congratulation, and will tend to show that, when unshackled by restraints or legal impediments so far from proving behind our neighbors in enterprise, we have, for promptitude and despatch, in this our *coup d'essai*, gone beyond any thing of a similar nature, even in the United States. Thus removing from among us that reproach to which we have hitherto so long, and of necessity, been obliged to submit.

When, in February 1832, when the Act was passed permitting the Petitioners to build a Railroad, it was apparently so cramped by restrictions, as, for a while, to become a dead letter, nor was it till November 1834, when Mr. Pierce, of St. John's, by his unwearied exertions, obtained a sufficient number of subscribers to preserve the Charter from falling through, that the provisions of the Act became fully understood. It is, therefore, to that gentleman and the Hon. R. Jones, that the country and community are chiefly indebted for the advantages already received, and likely to accrue.

We could not offer a more striking illustration of the change of public opinion regarding the value of the Railroad stock, as an investment, than by the facts, that, in December, 1834, after the number of subscribers required to preserve the Charter obtained, the balance of stock with difficulty found purchasers; whereas, in December, 1835, the stock is in great demand, and transfers have been made at 54 per share premium; and we flatter ourselves that the activity and determination evinced in our operations may have, in some slight degree, contributed to this desirable state of things.

In the United States, to which, from its proximity, we naturally refer, we believe it to be the custom to spend considerable time in surveying, planning, preparing material, making specifications, and giving out contracts. We, on the contrary, have "taken time by the forelock"—done the work by day-labor, and have the pleasure of adding are so far advanced, that there is ample prospect of its ultimate completion in the course of July next.

To the Chairman and Committee of Directors of the Champlain and St. Lawrence Railroad, I submit the following Report on the progress made in the undertaking, of which I have the honor of being the Engineer:—

The time between my appointment and the commencement of field operations, was occupied in giving the information and specifications necessary to enable the Committee to contract, without loss of time, for the timber, iron, and materials for fencing. This being accomplished, the quantity of land required from each farmer was ascertained and purchased by the Commissioner. The quantity taken was merely enough for the road, as that officer caused to be inserted in the deeds a proviso, that the Company may at any time, take the full quantity of land allowed by the Act, on the same terms, thus reserving the outlay of a considerable sum till absolutely required, and preventing the possibility of the Company's being put to any unnecessary trouble or expense in

enlarging the work at any future period. The importance of this arrangement will be more evident hereafter.

In undertakings of this kind it is usual to spend some time before commencing operations, in staking out the line, and preparing plans and specifications of every part of the work in detail. The contracts are then given out in the fall, and, during the winter, the necessary materials are drawn on the spot where they will be required, and every arrangement made to do that, the nature and extent of which has been accurately ascertained. But here, in the autumn of 1834, only five days were spent on the ground without time to bestow a single thought on any thing except the general location within the limits prescribed by the Act, consequently the season in which the grading was to be completed, opened upon us without the possibility of our having those definite plans and previous arrangements determined on, which contribute so much to the economy and success of all public works.

Owing to the inclemency of the weather, the staking out was not commenced till May and early in June ground was broken on the summit level near St. John's, on the only piece fenced in. The tardiness with which the materials for fencing were delivered, and the impossibility of entering on the farms till completely enclosed, compelled us to abandon the St. John's end of the line, for upwards of a month, a loss of time which the subsequent heavy and nearly incessant rains, rendered it impossible for us to recover.

Ten miles of the grading, forming about one-eighth of the entire expense, was done to advantage in the wet weather, but the remaining seven-eighths were principally occasioned by carting, a large proportion of the earth having been carried from one-quarter to one half, and even three-quarters of a mile over the worst kind of clay, in one of the worst seasons ever experienced, and, but for about four weeks good weather in the months of September and October, I should not now have the satisfaction of announcing the completion of the fencing, graduation, masonry, bridges, the large wharf at Laprairie and the frames of the station-houses. With the exception of the woodwork of the wharf, all has been done by the day. This, though contrary to established custom, was rendered unavoidable from the want of time to make the necessary preparations for putting the work under contract, and still more so from the fact, that no forfeit on the part of a contractor, could have indemnified the company for the non-fulfillment of his contract, as it was of the last importance that the graduation should be completed this season; and, had not this plan been adopted, there can scarcely be a doubt that this indispensable object would not have been attained. The men were engaged, and all the materials and tools purchased by the Commissioner. The men were paid every Monday evening, and a degree of order and harmony prevailed throughout all departments seldom witnessed on public works, for which the Company are indebted to the unwearied assiduity and admirable management of the Commissioner, and the assistant Engineer, Mr. Livingston.

The bridges are built in the strongest manner, and may be crossed at high velocities without injury. The principal bridge is over the Little River, four hundred feet long and thirty feet above the water. The channel is crossed by a lattice bridge of sixty-seven feet span, the roadway passing on

the top. There are four other bridges, varying from one hundred and seventy to twenty feet in length.

The wharf at Laprairie is eleven hundred feet long, thirty-two feet wide, and one foot higher than the old wharf. It is built in the most substantial manner, and has elicited the praise of the hundreds who visited it during its construction, and is certainly not excelled by any similar work in the Province.

The frames of the station houses are raised, but they are not yet covered in. The dimensions are one hundred by 40 feet. They are substantially built, and are intended to be finished without any unnecessary expense. Another will be required in a year or two at the Little River. Ground has been prepared for two turn-outs, one at the Battelle, the other at the Little River, and more may be added, as experience shows, where they will be most convenient.

The iron, and the various descriptions of timber for the road are delivered. The dressing of the latter has been placed under contract, and a considerable portion is already done. The drawing of the timber along the line has also been placed under contract on very advantageous terms.

Arrangements have also been made to procure a locomotive from England in the spring, four passengers' cars from the States, and the various castings for the road and the iron-work for the freight cars in this city; so that, with the different parts of the superstructure distributed along the line, and all requisite previous arrangements made, the Committee may confidently expect to open the road in July next, the exact time depending more on the season than on all other considerations united, as the settling of the ground varies at least three weeks in different years.

I now proceed to give a detailed account of the cost of the various parts hitherto executed, and an estimate of the amount required to complete the whole; remarking, that low as is the average cost of the graduation per mile, it has yet been much increased by the following circumstances:—Seventeen thousand cubic yards of slate-rock were encountered on the common of Laprairie: the carting, the grand item of expense, has been increased fifty per cent. by the rain, but little earth has been moved without the aid of the pickaxe; besides which, a large portion of the work was, from these various causes, crowded into the short days, in itself a very serious additional expense.

AMOUNT EXPENDED.

	£	s.	d.
Graduation, Masonry and Bridges,	8,514	19	9
Fencing,	855	4	11
Timber,	4,608	4	5
Iron,	73,333	15	9
Land,	1,470	16	34
Station Houses,	448	18	104
Wharves,	2,166	7	94
Contingencies, including Engineering,	1,943	3	94
	£23,339	11	7

AMOUNT REQUIRED.

Preparing Road Bed and dressing Banks,	620	0	0
58 Road and Farm Crossings,	235	0	0
Blocks, Splicing Plates, and Nails,	516	10	6
Laying down Superstructure and Horse Track,	4,010	0	0
Wharf at St. John's and Station Houses,	600	0	0

Contingencies, including Engineering, 1,200 2 10
Balances due for Timber and Iron, 1,488 15 1

£8,670 8 5
1 Locomotive, £1,200
4 Passenger Cars, 750
20 Freight do. 840
2,790 0 0

£34,800 0 0

Being at the rate of 569¢ for Graduation, Masonry, and Bridges per mile, and 2,335 per mile for the Road complete with Engine and Cars, Station Houses and Wharves.

I have now given at length the account of our summer's work, the amount expended, and the amount yet required; and feel confident that, taking into consideration the impossibility of making the usual preparations, the absence of experienced workmen, the nature of the ground, and the novel mode of conducting the undertaking, the Committee and Stockholders generally will be satisfied that the most has been made of six months, in locating the line, in completing the fencing, graduation, bridges, masonry and wharf, besides making all the necessary arrangements for opening the road in the least possible time next year.

For my own part, in reviewing our operations, I do not see where any saving worthy of notice could have been effected.

In conclusion, I beg leave to mention a circumstance which can scarcely be a matter of indifference to the Committee—that this, the first public work undertaken by a private Company in this Province, has, from the manner in which it has been conducted, already proved a public benefit, by giving employment and regular pay to hundreds of laborers, who, at parting, warmly expressed their satisfaction at the manner in which they had been treated, mingled with regrets that their services were no longer required. The Canadians formed by far the greater portion of the laborers, and maintained their character for behaving with a degree of order and good nature, when working together in large numbers, unequalled by any other people. Many of them had become much reduced by the misfortunes of the last three years, and to such the railroad has proved a signal benefit—furnishing the poorest with the means of softening the hardships of winter, enabling others to clear their farms from ruinous encumbrances, and banishing want from the doors of all whose land it has touched.

Respectfully submitted,

WILLIAM R. CASEY,

Engineer Champlain & St. Lawrence Railroad.

To the Hon. P. M'Gill,
Chairman of the Committee.

The Reports of the Committee and Engineer of the Champlain and St. Lawrence Railroad Company, in another column, will, we are sure, be read with interest, as the undertaking to which they refer, is the first of the kind projected in this Province. We see in its favorable prosecution, so far, the earnest of a success, that will embolden other companies to enter upon similar means to improve our internal communication. We feel convinced that this railroad, when fairly in operation, will put to flight a host of prejudices—will expand the mind of the public, and give a stimulus to the enterprise of all classes.

The undertaking will doubtless prove of incalculable advantage to the community, and we are happy to say, that from the eagerness with which the railroad stock is sought after, it is shrewdly expected that it

will be a profitable investment for capital. It is calculated that when this and the road between Whitehall and Saratoga are completed, that the journey from Montreal to New-York, may be accomplished in thirty-six hours, which will effect a material saving of time. For fuller details of the progress of the work, and of the future arrangements, we must refer to the reports themselves.—[Montreal Courier.]

We beg to call attention particularly to the concluding paragraph of Mr. CASEY'S Report, which refers to the advantage which the country people have already derived from the railroad. They were, we understand, when dismissed, very anxious to know if any other work of the kind was likely to be undertaken in that quarter next summer, as they would gladly accept of another season's employment.

[From the Vermont Chronicle]

CONNECTICUT RIVER AND ST. LAWRENCE RAILROAD.—At a meeting of citizens of Windsor, 10th Dec. inst. it was resolved, in accordance with suggestions, from the North and the South, to call a general Convention, to take measures to construct the contemplated Railroad through the valley of the Connecticut to the St. Lawrence, connecting with New Haven and New York. The place designated was Windsor, Vt., and the time Jan. 20th, 1836.

Among the reasons for this movement are the following:

1. The Legislature of Vermont, at its late session, granted an act of incorporation for a Railroad, from the south line of the State, in Windham County, to the North line, in Orleans County.
2. It is understood that petitions are about to be presented to the Parliament of Lower Canada for the charter of Railroads from Lake Memphremagog in two directions, viz. to Montreal and Quebec, prospectively to connect with the Connecticut River Railroad. It is also understood that a lively interest is felt in Canada, in this enterprise, and that a convention of delegates from the towns on the respective routes in Canada, and in the valley of the Passumpsic, in Vermont, is appointed to be held at Derby Line on the 31st inst.
3. It is understood that a fresh interest is awakened among the friends of the enterprise on the southern part of the route.
4. The time has unquestionably arrived when a convention of citizens, from the towns on the whole route, can no longer be delayed, without manifest detriment to great and important interests.

The object of the measures to be taken at the Convention are these:

1. To obtain charters for those parts of the route not yet granted.
2. To procure a survey of the whole route, with estimates of the expense.
3. To collect and arrange facts concerning the amount of business that may be expected on the route.
4. By these and other means, to present to the public such a report as shall induce capitalists to make investments in the stock.

The great importance of this enterprise is obvious on a moment's reflection. The agricultural susceptibilities of this whole route are very great—second to none in New England. The water privileges and powers of manufacture are immense. As a thoroughfare of business and pleasure, the route is unrivalled. It will connect the great cities of New York and Canada, and bring them within twenty-four hours ride of each other.

The country is singularly adapted to the construction of a Railroad—no point, it is believed, will require a stationary engine.

The greatest activity prevails among the friends of other kindred enterprises in New England. The people on this route do not now put forth their best efforts in the accomplishment of this object, they will tamely give into the hands of others the advantages which nature has put into their own.

These considerations, it is confidently believed, will insure, at this Convention, a general attendance of delegates from all the towns on the route; and gentlemen into whose hands this Circular may fall, are earnestly requested to use their influence to cause the appointment of the same.

Gentlemen who may attend, are requested to bring with them as much statistical and other information, on the objects above specified, as possible.

THOMAS EMERSON,
ALLEN WARNER,
CARLOS COOLIDGE, } Committee.
JOHN RICHARDS,
I. W. HUBBARD.

Windsor, Vt., Dec. 21, 1835.

WABASH AND ILLINOIS RAILROAD.—A respectable meeting of the citizens of Pekin, Illinois, took place in that town on the 21st of November, for the purpose of taking into consideration the expediency of uniting with their fellow citizens of McLean, Champaign and Vermillion counties upon the necessary measures for the construction of a railroad from Pekin on the Illinois river to the point on the Wabash, where the projected Indiana canal is to terminate. Nathaniel Baley and Wm. H. Sandusky, Esquires, acted as President and Secretary of the meeting. The following preamble, adopted unanimously will shew the object of the meeting:

Whereas the cities on the Atlantic seaboard by the continually increasing emigration to the State of Illinois, are becoming of paramount consideration to all classes; and as the present existing facilities of communication between those cities and this State are very limited, and at certain seasons of the year of a very dangerous character—and as the people of Indiana have manifested their conviction of the importance of a more direct and safe communication with those cities by uniting the Wabash river with Lake Erie. And as the people of Illinois generally, as well as citizens of Vermillion, Champaign, McLean, and Tazewell counties are deeply interested in the construction of a Railroad from the Illinois river to the Wabash.

A committee consisting of five members was then appointed to confer with the citizens of the counties interested in the work, on the measures best calculated to carry it into effect, and five delegates were appointed to proceed to Vandalia for the purpose of co-operating with other delegations from these counties in relation to the subject matter.

The Secretary of the meeting who forwards us the proceedings—which it is quite out of our power to publish *extenso*, asks us to request the papers of New York, Philadelphia, Boston and Providence, to copy them.—[Courier and Enquirer.]

From the Argus.

WESTERN RAILROAD.—(FROM WORCESTER, VIA SPRINGFIELD, TO WEST STOCKBRIDGE.)—At an adjourned meeting of the stockholders of this company, at Boston, the following gentlemen were chosen directors:

GEORGE BLISS, } Springfield,
JUSTICE WILLARD, }
T. B. WALES,
EDMUND DWIGHT,
HENRY RICE,
FRANCIS JACKSON,
WILLIAM LAWRENCE,
JOSIAH QINCY, jr., }
JOHN HENSHAW.

The meeting of the stockholders is said to have been numerously attended, from the towns on the route, and from the city of Albany. It was announced, and statements

were read showing the fact, that the entire stock has been subscribed, with a sufficient excess to meet contingencies. This important work, which when constructed, will complete the direct railroad communication between this city and the city of Boston, will be commenced, we understand, at the earliest day practicable.

LOCOMOTIVE ENGINES.—We make the following extract from a letter dated Dec. 1, from a friend in Charleston, S. C., in order to show that improvements in Railroad Machinery is not confined to Baltimore, or any other one place, but wherever there is a Railroad, there also may be found improvements. It may well be asked, Who dared, *ten*, or even *five*, years ago, to predict that an Engine would be constructed, and especially in this country, capable of taking a load of 130 tons *eighty* miles in a day, and that too up inclinations of 37 feet per mile?

In relation to the comparison made with the Baltimore Engines, the statement is to indefinite to form an opinion—

Charleston, S. C. Dec. 4, 1835.

To the Editor of the Railroad Journal:

Sir—I take the liberty of giving you an account of the performance of the improved Six Wheeled Locomotive Engines, now at work on the Charleston and Hamburg Railroad, built after the plans and drawings of E. K. Dod, Chief Engineer of said Road.—These Engines perform a trip from Charleston to Aiken and back in three days, the distance is 240 miles, carrying a train equal in weight to 130 tons—with this load they surmount all the ascents, some of which are on a grade of 37 feet to a mile. You will perceive that this is more than double what the Engines on the Baltimore and Ohio Railroad are doing according to the accounts in your Journal. These same Engines are capable of travelling with our ordinary passenger train at a speed of 40 miles per hour, although the Engines are limited to run but 20 miles per hour, unless they are behind the regular time. The cylinders are 10½ inches in diameter and 16 in stroke, driving wheels 54 in. diameter, the cylinders being secured on the outside of the boiler, unable us to dispense with the Cranked Axle.

[We shall be gratified to hear farther particulars from the writer of the above letter, in relation to the Charleston Railroad and its machinery.—[Ed. R. R. J.]

From the London Mechanics' Magazine.

PRINCIPLES OF RAILWAY LOCOMOTION.

Sir,—The writers on dynamics have demonstrated, that the force just necessary to prevent a heavy body from rolling down a smooth inclined plane (abstracting friction)

is $\frac{ah}{L}$, where a is the weight of the body, h the height of the plane, and L its length. This theorem is universally true, whether as respects our earth or any other of the celestial bodies. But in determining the space, time, velocity, &c., in and with which a body moves down an inclined plane, or when projected up a plane, it has hitherto been found absolutely necessary first to ascertain experimentally the value of the symbol g , which means the measure of the force of gravity or the velocity a body has acquired at the end of the first second, the motions commencing from a state of

rest, and the direction being in a vertical line; and from thousands of experiments, the value of g in our latitude has been found to be 32½ feet. I observe, however, in No. 618, your scientific correspondent, Mr. Herapath, has attempted, without the aid of g , to give us some very important formulæ on the principles of Railway Locomotion; I say important, if they shall turn out to be true; but on this point I must confess that I have some misgivings.

Mr. Herapath says, "that he has determined three rules as simple and correct as he believes it is possible, in the present state of our knowledge, to make them." Then follow the three formulæ (see p. 182, col. 2, and 183, col. 1). Mr. H. himself, however, seems a little puzzled at the result

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of the expression $\frac{h}{1 \pm \frac{h}{22}}$ which repre-

sents the speed in miles per hour when the load is moving up or down the plane. For, as he truly observes, "we can hardly apply this formulæ to descents unless they be very small; for if the descent was 22 feet per mile, it would make the velocity appear to be infinite," &c. No doubt the formula produces such a result; and it is rather surprising that when Mr. H. found this was the result, he did not take it as a warning that there might peradventure be something wrong in his formula. An infinite velocity is no joke, and, perhaps, might be attended with some danger. Let us assume $h=21\frac{1}{2}$ feet (and on this supposition gravity will not do all the work); the velocity in this case will be 1,290 miles per hour (quick enough, no doubt, for any ordinary purpose). Again, by assuming $h=22\frac{1}{2}$, the velocity will turn out to be negative at the rate of 1,320 miles per hour. A negative speed, although perfectly understood by algebraists, may, to some of our readers, who do not rank as such, require some kind of explanation. For their benefit, here it is. The carriage and load, instead of moving down the plane, as might be expected (as gravity in this case does something more than the whole work), will, to the utter surprise of every one, roll up the plane at the rate of 1,320 miles per hour!

Perhaps, however, Mr. A. meant that when h is greater than 22, the formula as-

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sumes the form $\frac{h}{22} - 1$. But upon trial,

this change will not much mend the matter. I am afraid the formula will not be exactly true, except in the case when $h=0$. Mr. H., it is true, may say that the resistance of the air will prevent any thing like a velocity of 1,290 miles per hour. No doubt, if we had 30 square feet of opposing surface, and when the resistance of the air approaches "nearly to 344 horses' power," it would certainly be a very great check upon the velocity. Again, Mr. H. may state that he has premised that the value of h must be very small; I know he has said so, but in answer to this I beg to state, that he has not given the greatest limit to h , so that we may know when his formula presents a true or a false result. With respect to this formula, as it regards ascending planes, although it does not present such seeming absurdities, still, being derived from the same suspicious source, no faith can be placed in its accuracy.

I am well aware, Mr. Editor, that Mr. H. is considered by many to be both a mathematician and a philosopher of the first order; I well recollect the challenge he gave to the Royal Society on some phy-

sical questions, backed by a wager of 1000*l.*; still, notwithstanding all this, I maintain that his algebraical formulæ on Railway locomotion, are not founded upon true principles.

I am, sir, yours, &c.

IVER MACIVER.

June 20, 1835.

P. S.—I am much obliged to Kinclaven for the correction he has made in my last article; the only recompense I promise him will be, if he should ever fall into a like mistake, I shall endeavor to set him right.

I. M.

From the Journal of the Franklin Institute

MR. HERRON'S IMPROVEMENTS IN RAILROAD CARS.

(Extracted from the List of American Patents which issued in March, 1835.)

54. For improvements in Railroad Cars; James Herron, Civil Engineer, Richmond, Henrico county, Virginia, March 25, 1835.

There are several distinct improvements claimed by this patentee, all of which are described in a very full and clear manner, and illustrated by drawings, which leave nothing to desire on this point; it will appear, however, upon examining into the originality of the things claimed, that they are generally old, and have been fully described in this journal, or elsewhere in public works. The following are the claims.

"Specification 1st.—In this I claim as being the original inventor of carriages adapted to run alike on the edge railway, and on turnpike roads, as hereinbefore described.

"Specification 2nd.—In this I claim as being the original inventor of the roller flanches for retaining and guiding carriages on rail-roads, as hereinbefore described.

"Specification 3rd.—In this I claim as being the original inventor of the plans hereinbefore described for making the carriages conform to the curves on the railway.

"Specification 4th.—In this I claim as being the original inventor of the friction head, for reducing the friction of axles, as hereinbefore described.

"Specification 5th.—In this I claim as being the original inventor of the friction band, for reducing the friction of axles, as hereinbefore described.

"And I distinctly claim the right to apply my improvements, or inventions, herein specified and described, in whole or in part, as the nature of the case may require, to all carriages, cars, wagons, locomotive engines, and other machines."

The thing claimed in the first specification, which is for adapting the wheels to run on common roads, was the subject of a patent obtained by Samuel T. Jones, of Philadelphia, on the 22d of February, 1830, see vol. v., page 151; and also of one obtained by Mr. John pollock, on the first of October of the same year. The present patentee uses wheels of five feet in diameter, with a flat tread, and without the usual flanch, instead of which "there is placed alongside of each wheel a flat disk of iron, which I term a roller flanch, as it is at liberty to revolve on its own axis, entirely independent of the burthen wheel;" "when the carriages are used for streets, the roll-

er flanges are raised up to the position represented by the dotted circle." Mr. Jones, in his specification, above referred to, says, "I sometimes make my wheels without flanges, and, instead thereof, use friction rollers, fixed upon, or adapted to, suitable arms, or bearings, extending down to the rail, so that the rollers may bear against its side, and perform the office of a flanch." "I construct them so that they may slide up, when the car, or carriage, is about to pass off the railroad."

The plans claimed for making the carriages conform to the curvature of the railway are two, both of which require that the axles of the fore and the hind wheels should have their bearings on separate rectangular frames, which allow the axles to move from their parallel position, like those of common carriages, by means of the hounds; but in the case before us both frames turn, they being "connected by means of the coupling bar at a point intermediate between the axles, to which bars are attached toothed segments, adapting each pair of wheels equally to the curvature of the road."

By turning to vol. iii. p. 66, it will be seen that the late Dr. Win. Howard obtained a patent, dated Nov. 22d, 1828, for the application of this principle, which he states in the following words: "The connexion of the two beds of the axles at a point equidistant from each; and in the same manner the connexion between the hind bed of one wagon, and the fore bed of that following it, or the fore bed of the leading wagon with any system of guide wheels, so that the wheels not only of one wagon, but of a train, will follow one another in the same curve, without more lateral friction than when on a straight line." This description is accompanied with plates, to which the reader may turn, and see a full exemplification of the principle.

Under this same head, Mr. Herron refers to a method of using jointed crossbars, instead of the circular segments, by which "the same object will be more simply effected," by turning to the patent of Mr. John Pollock, obtained October 1st, 1830, this coupling by jointed crossbars will be found represented in a drawing, together with several other things which the present patentee deems to be new, and among them the making the wheels without flanges, that they may run upon common roads; see vol. vii. p. 17.

The "friction bands," mentioned by the patentee as claimed under his fourth specification, are hoops, or rings, of iron, by means of which the carriage frames are suspended below the axles of the burthen wheels; the hoops pass over the prolonged ends of the axles, and under friction rollers upon the frame of the carriage, and are to roll around by the friction of the axle upon them, in the manner, though not for the purpose, of Winan's friction wheels. It will be found in practice that these hoops will frequently stand still, and allow the axle to turn within them, as has often been the case with Winan's wheels, which have in several instances been cut through by this means. Besides this, the idea of suspending the load upon revolving rings is

not new; N. Finlay, of Baltimore, suspended the load in this way; see the notice of his patent, dated October 27th, 1829; at p. 36, vol. v.

The cranked axle mentioned in the fifth specification is intended to allow the load to extend below the axis of the load wheel. This has been effected by Samuel T. Jones, in a car patented by him, and described, vol. v., page 149; it has also been effected by others. We could have cited other authorities, also in most of the cases above noticed, with some of which we opine that it would be well for civil engineers to make themselves acquainted.

BACHMANN'S FRAME FOR RAILROAD CARS, AND OTHER CARRIAGES.

(From the List of American Patents which issued in May, 1835.)

4. For an improved Frame for Railroad Cars, and other Carriages; Heinrich Bachmann, Lancaster, Pennsylvania; an alien who has resided two years in the United States: May 2.

We are informed that by the plan here proposed, Railroad Cars may turn the small curves necessary in leaving the track for a warehouse, a yard, &c.; and that the lateral friction on the rails will be no greater upon any curve than on a straight line. We wish that this was true, but, unfortunately, the theory of the patentee is incorrect, and the plan by which he proposes to produce this useful effect is without novelty, its essential principle being well known, and repeatedly patented. The plan for causing the fore and hind wheels to adapt themselves to a curve, simultaneously, is the same with that upon which we remarked at p. 249, when speaking of Mr. Herron's patent, and to which, in order to avoid needless repetition, we must refer the reader. As regards the correctness of the theory, let it be remembered that when the fore wheels of a car pass from a straight road on to a curve, the hind wheels are still upon the former, and that by the plan proposed they are adapted to a curve at which they have not yet arrived, and will, therefore, have to grind their way to it. The patentee proposes to place the hind and fore wheels ten feet apart, which will greatly augment the evil that he imagines he has removed.

As in turning curves the opposite wheels must move with different velocities, the patentee uses a separate axle to each wheel, thus admitting of this difference of motion; there is no more novelty in this than in the other parts of the plan. Separate axles have been repeatedly used; and the same effect was produced, many years since, by leaving one wheel on each axle loose, so that, when necessary, it could turn upon it in the ordinary way.

34. For Increasing the adhesion of the hind wheels of Locomotive Engines; Chas. and Geo. Escal Sellers, city of Philadelphia, May 22.

A patent was obtained by Mr. E. L. Miller, on the 19th June, 1834, for a method of obtaining a similar end, by throwing the weight of a car, or tender, on to the hind part of a locomotive engine.

The present patentees effect the object by "so coupling, or connecting the cars containing the load to be drawn, to the body of the locomotive engine, as that the load by its action upon a lever, or standard, shall tend to raise the fore end of the locomotive, in any desired degree, and thus to lessen the pressure upon the fore, and transfer the same to the hind wheels."

The patentees say that they "do not mean to limit themselves to any particular form or manner of constructing the parts concerned in producing the intended effect, but claim as their invention the connecting to a Locomotive Engine, the load which is to be drawn by it, in such a manner as to throw a larger portion of the weight of the locomotive upon its hind wheels than they are ordinarily intended to sustain, in the manner, or upon the principle herein before set forth."

It will be readily seen that the coupling bar, or jointed rod, by which the car is attached to a locomotive, if attached to it at a point considerably above that by which it is attached to the car, will tend to lift the latter, and to draw down the former, and thus to increase the adhesion of its hind wheels.

35. For an improvement in Mills for Sawing Stone; Joseph L. Dutton, city of Philadelphia, May 22.

This patent is taken for the particular construction of the building in which the sawing is to be effected. In the first place, the floor of the mill is to be raised to such a height from the ground "as to be on a line with the bed of the log or marble teams, by which means most of the expense incurred by unloading, and reloading, is saved." On this elevated floor are placed several short transverse railways, upon which run cars to which the blocks of stone are transferred, immediately from the common teams, and by which they are supported during the operation of sawing.

Above the before mentioned railways, the framework of the building supports other railways, upon which also there is a car furnished with a screw, by means of a chain dependent from which, a block of marble may be suspended and transferred to any part of the mill where it may be wanted. A crane is likewise constructed, which sustains a car similar to that last described, for aiding in the transfer of the stone from one part of the building to another. The arm of this crane is supported upon friction wheels, running upon a suitable curved way, erected for that purpose.

"I claim an exclusive right to the raising of the mill floor, as above described. The traversing car. The application of the upper car to saw mills. The crane, whether applied to saw mills, or for any other purpose; and the regulating spring of the saw slides."

We think that the foregoing claim is very susceptible of improvement. The mere raising of the floor, for the purpose pointed out, we do not think new in saw mills, for we err greatly if we have not seen, in Philadelphia itself, a mill, for sawing mahogany, with the floor so raised

"as to be on a line with the bed of the log" carriage. Nothing is said about any novelty in the traversing car which is to receive the stone, nor do the upper cars differ from such as have been used for raising and transferring loads, for other purposes. The crane is claimed, "whether applied to saw mills, or for other purposes;" now this assuredly does not mean a crane generally, yet we are not told in what particular this crane differs from others; a thing that should not be left to be inferred, but which ought to have been particularly specified. The fact is, that the novelty and utility of the structure consist not so much in the formation of its individual parts, as in the general arrangement and combination of the whole, by which it is adapted to the attainment of the object proposed, and upon this the claim to invention must mainly rest.

San Felipe de Austin, Oct. 26, 1835.

To Dr. John Sibley,

MUCH ESTEEMED SIR:—The very friendly declarations contained in the Resolutions adopted by the citizens of your place at a public meeting over which you presided, have come to us, and we are now under the necessity of calling upon you for the aid so freely and nobly offered. We send you two circulars, containing the last important information, which of themselves ought to be sufficient to excite our friends. We will also inform you that from information received the enemy still expects considerable reinforcements, and have therefore to tender our thanks through you to the meeting, and urge them to use their united influence to hasten the assistance which the destinies of Texas so loudly call for. A few men now may save Texas from sword and fire.—The accompanying please cause to be printed in your paper, requesting all editors friendly to our cause to do the same.

You will be good enough to inform those who will embark in our cause that provision will be made to receive companies at the mouth of Brazos (Velasco,) and their passage from N. Orleans paid; those who come by land will form themselves into companies, and the commander will draw on this council for payment of supplies and all other expenses necessary to a general outfit. Respectfully,

R. R. ROYALL, *President*

Of the General Council of Texas.

A. HOUSTON, *Secretary.*

San Felipe de Austin, Oct. 26, 1835.

On Motion of D. PARKER of Nacogdoches, it was Resolved,

That the General Council address the people of the United States, making an appeal to their philanthropy in behalf of the people of Texas, whereupon the following address was unanimously adopted, and ordered to be printed and circulated.

R. R. ROYALL, *President of the Council.*

A. HOUSTON, *Secretary.*

TO THE CITIZENS OF THE UNITED STATES OF THE NORTH.

The General Council of all Texas, by resolution unanimously adopted, have de-

termined to address you in behalf of suffering Texas, and to invoke your assistance.

A few plain facts will suffice to explain to you the political condition in which we are placed, and to satisfy you that we are engaged in a contest just and honorable, and one which should command universal admiration and sympathy.

Our citizens were invited to settle Texas by a government of a republican federal character, having for its model that of the government of the United States of the North. Under that invitation, and the promise of protection to our lives, persons, and property, thousands emigrated here, and have subdued a vast extended wilderness to the purposes of agriculture; and in place of the solitary region inhabited hitherto only by the savage and beast, now present a country prosperous in the highest degree, with a population varying between sixty and one hundred thousand inhabitants, and having on its whole face inscribed one universal assurance of its future greatness and prosperity.

Under this form of government, and this invitation, thousands have brought their property to this county, and invested thousands upon thousands of dollars in lands. They have expatriated themselves from their native country, torn themselves from connections dear, given up the conveniences and luxuries of life, and encountered for years back toils and dangers and privations of every sort.

They have given security to the Mexican frontiers from Indian depredations, and made the mountains the boundary of the savage. And now, when we had accomplished all this, when we had just fairly established ourselves in peace and plenty, just brought around us our families and friends, the form of government under which we had been born and educated, and the only one to which we would ever have sworn allegiance, is destroyed by the usurper, Santa Anna, and a military central government about to be established in its stead.

To this new form of government the people of Texas have refused to submit.—They ground their opposition upon the facts that they have sworn to support the Republican Federative Government of Mexico, and that their duty requires them now to stand out in opposition.

Texas was one of the units that composed the government, by the national constituent congress of 1834. She was acknowledged a sovereign and independent member of the confederacy. As a sovereign member, she voluntarily united in the confederacy that forms the government, and upon the breaking up of that government she has unquestionably the right to accede or to reject the new one that may be proposed.

The one now proposed is in opposition to her wishes, interests, and the education of the people. It protects only the interests of the military and clergy, securing privileges to the one, and intolerance of religion to the other. Such being its character, and our right undoubted, the people of Texas, with one united voice, have rejected the new form of government, and have resolved to abide by their oaths to sustain

the constitution. Public sentiment has already declared that Texas should be organized as a state government under the constitution of 1824, or such other form of government as circumstances may require.

Members to a convention have already been elected, and were to have met on the 15th of the present month. The invasion of the country by General Cos, has, however, thus far prevented their meeting, as nearly every member is now in the field of war. At this time our army is besieging General Cos in San Antonio, but he is hourly expecting a large reinforcement, and the people of Texas wait aid of their once fellow citizens, friends and relations of the United States of the North.

What number of mercenary soldiers will invade our country we know not, but this much we do know, that the whole force of the nation that can possibly be spared, will be sent to Texas, and we believe that we have to fight superior numbers. But we believe victory in the end will be ours. But one sentiment animates every bosom, and all, every one, is determined on "Victory or death."

Citizens of the United States of the North, we are but one people! Our fathers, side by side, fought the battles of the revolution. We, side by side, fought the battles of the war of 1812 and 1815. We were born under the same government—taught the same political creed, and we have wandered where danger and tyranny threaten us! You are united to us by all the sacred ties that can bind one people to another. You are, many of you, our fathers and brothers—among you dwell our sisters and mothers—we are aliens to you only in our country,—our principals, both moral and political, are the same—our interest is one, and we require and ask your aid, and we earnestly appeal to your patriotism and generosity. We invite you to our country—we have land in abundance, and it shall liberally be bestowed upon you. We have the finest country on the face of the globe. We invite you to enjoy it with us, and we pledge to you as we are authorised to do, the lands of Texas, and the honor and faith of the people, that every volunteer in our cause shall not only justly but generously be rewarded.

The cause of Texas is plainly marked out. She will drive every Mexican soldier beyond her limits, or the people of Texas will leave before San Antonio the bones of their bodies. We will secure on a firm and solid basis our constitutional rights and privileges, or we will leave Texas a howling wilderness.

We know that right is on our side, and we are now marching on the field of battle, reiterating our father's motto, "to live free or die." And to the people of the United States of the North, we send this assurance, that though numbers may overwhelm us, no other feeling than that of the genuine American glowed in our bosoms, and though danger and destruction awaits us, no friend of theirs prove recreant to his country.

Done in the Council Hall on the 26th day of Oct., 1835.

(Signed) R. R. ROYALL, *President.*
A. HOUSTON, *Secretary.*

METEOROLOGICAL RECORD.

For the months of August and September, 1835, kept at Avoyles Ferry, Red River, La., (Lat. 31° 10' N., Long. 91° 59' W., nearly,) by P. G. VOORHIES
[Communicated for the American Railroad Journal.]

AUGUST.

Days.	Morn.	Noon.	Night.	Wind.	Weather.	REMARKS.
17	83	84	..	calm	clear	wind in the after'n s. e. and showers all day
27	81	79	..	..	cloudy	rain at noon and evening
37	80	77	..	..	..	clear at noon
47	85	82	..	..	..	{ thunder and rain—wind N. w. at noon
57	80	78	..	..	clear	clear at noon—thunder
67	84	80	..	..	cloudy	—wind s. w. in the ev'g
77	83	80	..	..	..	foggy morning and cloudy evening
87	80	74	..	calm	cloudy	light showers
97	82	78	..	..	..	rain in the evening—
107	84	80	..	..	..	heavy and thunder
117	85	82	..	..	..	at noon a gale from w. and heavy rain and th'r
127	82	80	..	..	..	..
137	83	82	..	..	..	..
147	86	81	..	sw	clear	{ light showers at noon—cloudy evening
157	87	84	..	calm	cloudy	heavy rain in the morn'g
167	89	84	..	..	clear	Red river falling
177	87	85	..	..	..	..
187	88	82	..	..	..	..
197	88	83	..	..	..	cloudy evening
207	89	75	..	..	..	all day
217	82	78	..	..	..	{ heavy thunder storm and rain from N. w.
227	81	79	..	..	..	..
237	82	75	..	..	cloudy	rain in ev'ng—wind s. w.
247	82	77	..	..	..	{ close and sultry morn'g—
257	84	75	..	..	..	ing—at noon wind s. thunder and rain in the evening—wind N. w.
267	80	72	..	..	..	at 11 o'clock a m. a severe gale from N. w.
277	68	72	..	..	..	rain, with heavy thunder and rain
287	71	77	..	..	..	Red river on a stand
297	82	80	..	..	..	..
307	84	82	..	..	..	light showers in the ev'g
317	84	72	..	..	cloudy	rain and storm from the w. in the evening

Red river fell this month 1 foot 9 inches—below high water mark 7 feet 9 inches.

SEPTEMBER.

Days.	Morn.	Noon.	Night.	Wind.	Weather.	REMARKS.
17	76	75	..	calm	cloudy	clear in the morning
26	80	76	..	..	..	{ thunder and rain—high wind from E.
37	84	76	..	..	..	clear in the evening
47	86	79	..	..	..	wind in the ev'g from s. e.
57	85	82	..	..	..	Red river rising
67	86	83	..	..	..	..
77	78	75	..	..	..	..
87	74	72	..	..	cloudy	..
97	81	79	..	..	..	..
107	81	77	..	NE	..	cloudy evening
117	81	76	..	calm	..	..
127	81	78	..	..	..	..
137	82	79	..	calm	..	..
147	82	78	..	..	..	..
157	82	76	..	..	..	..
167	82	74	..	..	..	{ heavy showers rain and wind from E. in even'g
177	76	72	..	E	cloudy	all day
187	74	72	..	NW	clear	cloudy in the evening
197	76	69	..	W	..	..
207	80	75	..	NW	..	..
217	79	75	..	calm	..	..
227	78	75	..	..	..	..
237	77	71	..	NE	..	foggy in the morning
247	73	70	..	NW	..	..
257	71	65	..	N	..	..
267	72	66	..	NE	..	..
277	70	64	..	NW	..	..
287	75	71	..	calm	..	..
297	79	75	..	..	..	..
307	81	76	..	..	..	..

Red river rose this month 7 feet 3 1/2 inches—below high water mark 5 1/2 inches.

AGRICULTURE, &c.

HORTICULTURAL SOCIETIES AND AGRICULTURAL FAIRS.—We take the following account of the meeting of the Ontario and Wayne counties Horticultural Society, from the Geneva Courier. The meeting was held at Blossom's Hotel, in Canandaigua, on the 30th of September. We omit the list of premiums, giving merely that part of the proceedings which may be of service to others; and we would call especial attention to the statement made by Mr. Samuel M. Hopkins, in relation to the "nature and cause of Mildew" of the Grape—it will at least be found interesting, and we hope valuable to our wine growing friends.

The fruits, vegetables, and flowers were arranged for exhibition, on tables in the dining-room of the hotel, the walls and ceiling of which had been dressed and decked in a very tasteful way, by the excellent gardeners in the employ of Messrs. Greig, Duncan, and Blossom, with a drapery gathered from forest, orchard, and garden, beautifully appropriate, and variegated with the rich dyes of autumn, among which, hung up at various intervals, were seen double pears, twin plums, apples in great clusters, and other anomalies of vegetation.

The committee were engaged in their examinations and in adjudging premiums, from about 12 till a little after 1 o'clock, and the premiums were announced after dinner.

After this report, Mr. Hopkins gave an exceedingly interesting statement of various experiments, which he had made during the past season, on the management of grape vines, with a special reference to the ascertainment of the nature and cause of Mildew. The statement was wholly oral, and it is impossible to give a full and exact report of it here: though the general conclusion, which Mr. H. drew from his experiments, was that the mildew of grapes was analogous to the rust of wheat; that is, an exudation, or oozing out, of the juice of the young grape through its tender skin, bursts in the very early stages of its growth, by excessive stimulation by too high manuring, and then acted on by the intense heat of our American summer sun. Mr. H. had examined the grapes, in all stages of their progress, with a microscope, and was entirely convinced that he was right, as to the nature of mildew, and believed that he had ascertained one of its causes, if not its only one. He exhibited samples of clusters, taken from different parts of his vines, to illustrate his positions and exemplify the effects of his different modes of management. He considered that the treatment, indicated by his experiments, was to avoid high manuring, and to prune little, or none, so as to leave to the clusters the shelter of all the shade the vine can furnish, and even to train the vines on trees for the sake of additional umbrage, as the custom has always been in Italy. On this point, Mr. H. referred to the natural habits of the grape, and to the methods of culture pursued in the more sunny regions of sunny Europe, and thought that our modes of treatment should be drawn from those climates, as being more like our own, rather than from countries many degrees north of us, as England and Scotland, where the humid, chill, and unsunned atmosphere about the vines, render

ed much stimulation and pruning necessary.

Such is a very succinct, but, it is believed correct, outline of the views presented by Mr. H. Before the society adjourned a resolution was passed, requesting Mr. H. to furnish a detailed and full statement of his experiments and views on this subject for the press.

The following are the officers for the ensuing year:

John Greig, President; Samuel M. Hopkins, Wm. H. Adams, Oliver Phelps, Wm. S. De Zeng, Alexander Duncan, Abraham L. Beaumont, Vice Presidents; Joseph Fellows, Treasurer; O. L. Holley, Corresponding Secretary; Z. Barton Stout, Recording Secretary.

The Corresponding Secretary was directed to prepare a circular on behalf of the Society, and have 300 copies printed, for distribution in the counties of Ontario and Wayne, in the hope of enlarging the numbers of the Society and extending its usefulness.

It was resolved that the next June meeting be held at Lyons, and that Wm. H. Adams be Chairman of the Committee of Arrangements for said meeting, the day and place of which to be seasonably advertised in the newspapers.

Z. BARTON STOUT, Rec. Sec'y.

AGRICULTURAL CONVENTION.

Believing that important benefits may result from the deliberations of a State Agricultural Convention—that a moderate appropriation of public money, to induce emulation, to reward merit, and to diffuse useful knowledge in the arts of productive labor, would tend essentially to advance our prosperity, and to improve and elevate the character of our State; and knowing that the concert of many can alone insure success in the most laudable undertaking,—the subscribers respectfully invite a convention of gentlemen, desirous of giving a new impetus to agricultural improvement, either individually, or as delegates from towns and counties, at the City Hall, in Albany, on the second Monday in February next.

J. H. Bronson,	O. Wiswall,
Calvin M'Knight,	Joab Centre,
Alpheus Green,	W. R. Ludlow,
M. Sterling,	Carroll Livingston,
Wm. Smith,	Peter Livingston,
Eli Fairwell,	Sherman Griswold,
Olney Peirce,	Erastus Pratt,
Egbert Ten Eyck,	Geo. M'Kinstry,
Hart Massry,	Abm. Jordan,
Of Jefferson Co.	James Fleming,
Thos. L. Davis,	Henry Smith,
Thos. Taber,	Seymour Smith,
Henry Swift,	John Sanders,
Barton White,	Walter Patterson,
Egbert Carey,	Robert Denniston,
Benj'n Haxtun,	Of Columbia Co.
Ob. Titus,	Erastus Corning,
Joseph J. Jackson,	J. K. Paige,
Stephen Thorne,	Wm. Campbell,
Henry A. Livingston,	Aaron Thorp,
John Wilkinson,	Samuel Cheever,
Of Dutchess Co.	Of Albany Co.
P. Beekman,	G. Robinson,
L. Van Bur-n,	Wm. Main,
J. S. Vasburgh,	M. Whiting,
P. J. Hoos,	C. Murdock,
W. Hawley,	Earl Stenson,
Thos. G. Waterman,	John H. Steele,
Of Broome Co.	Of Saratoga Co.
G. Corning,	Dan. Bradley,
Philip Viole,	Of Onondaga Co.
A. Walsh,	G. D. Burrall,
Of Rensselaer Co.	Of Ontario Co.
L. F. Allen,	J. B. Yates, of Madison.

P. B. Porter, T. H. Hubbard,
Aug. Porter, J. W. Brewster,
Of Erie Co. Of Oneida Co.

AGRICULTURAL CONVENTION.

It will be seen, by the notice inserted in to-day's Cultivator, that an Agricultural Convention is proposed to be held in Albany, on the second Monday in Feb. next.—The notice has appended to it the names of many highly respectable citizens, to whom the proposition was submitted—enough to give to it all the weight and consequence which is desirable in a preliminary measure. This is the era of conventions; and when their object is praiseworthy, they are seldom otherwise than beneficial. They tend to bring about a concert of action, and to concentrate the energies of many for the accomplishment of a common good. And if the agricultural community can in this way do any thing to advance their interests, we may rest assured that the State will be benefited, so intimately is the prosperity of the first identified with that of the latter. The discreet farmer must graduate the extent of his purchases from the merchant, manufacturer, &c., by the net profits of his farm. If he can double these profits, as we feel assured may be done, the other classes of society will be correspondingly benefited.

There are many topics which present themselves as worthy the consideration of an Agricultural Convention, and in which the whole community have a deep interest. We will endeavor to point out some of the more prominent ones.

1. *The establishment of a School of Agriculture.* "It remains to us," says Chapin, "to improve agriculture by the application of physical science. All the phenomena which it presents, are the consequences necessarily resulting from those eternal laws by which matter is governed; and all the operations which the agriculturist performs, serve only to develop or modify these causes. It is, then, to the acquisition of a knowledge of these laws, in order to calculate their effects, and modify their action, that we ought to direct our researches." These laws relate not only to the organic and ponderable matters with which we have to do, as animals and vegetables, earths and manures, but to light, heat, and moisture, which exercise a controlling influence over animal and vegetable life. "Discoveries made in the cultivation of the earth," it is well remarked by Davy, "are not merely for the time and country in which they are developed, but they may be considered as extending to future ages, and as ultimately tending to benefit the whole human race; as affording subsistence for generations yet to come; as multiplying life, and not only multiplying life, but likewise providing for its enjoyment." And if the sciences, as is often asserted, are worthy of our ardent pursuit, merely on account of the intellectual pleasures they afford—"by enlarging our views of nature, and enabling us to think more correctly with respect to the beings and objects around us,"—how much more worthy are they of our regard, when employed to multiply the products and profits of human labor—to increase the comforts and happiness of the human family.

But it is not desired to make mere scientific farmers, but intimately to blend the practice, and the best practice, in all the departments of rural labor, with the theory, and to test and correct the one by the other. In the plan of a school which has been partially promulgated, it is set down as an indispensable rule, that during the seven farm-

ing months, both teachers and students shall devote at least one half of the time to the practical labors of the field, the garden, or the mechanic's shop. The plan has been objected to on the ground, that few, comparatively, can become its inmates. The same objection exists to all our higher literary schools; not one individual in five thousand receives instruction in our colleges; and yet it would subject one to ridicule to contend, that these colleges do not exercise a highly salutary influence, indirectly, upon the best interests of the community. So of our canals and public improvements; they do not directly benefit property where ample facilities of commercial intercourse previously existed—they have in fact comparatively and seriously diminished the value of real estate in some districts; yet no one doubts their utility to the community at large. Besides, should the predictions of the usefulness of agricultural schools be verified, schools of the kind can be readily multiplied.

The pupils of an agricultural school would not only carry with them into business life, those principles of science, and that general knowledge, which would be calculated to improve our husbandry, and to add to the stock of general knowledge—but they would carry with them, and disseminate, practical knowledge, in all the departments of agricultural labor. They would carry with them a knowledge of the various breeds of farm stock, of their relative value—of the diseases to which they are incident, and the methods of treating them, when well or sick—a knowledge of the nature and proper management of different manures—of the principles and methods of draining and irrigation—of the principles and value of alternating crops—of the best varieties of fruits and culinary vegetables, and the modes of propagating, cultivating and preserving them—a knowledge of all new plants, profitable in our rural culture, method of treatment, the soils to which they are adapted, and mode of preparing for market—of the leading principles of mechanical science, highly essential in the construction and management of farm implements. They would carry with them, also, habits of application and reflection—hands inured to labor, and minds imbued with light and truth, and animated with an ardent desire to obtain distinction for usefulness. The example of a good farmer exerts a magic and benign influence upon all around him. His light is not hid under a bushel; but shines forth to illuminate and instruct all who are within its influence. Who will set bounds to the benefits which would result from annually locating one or two hundred such pupils in various parts of the State?

2. *The standard of instruction in our common schools should be rated, to fit the pupils for the high duties and responsibilities of freemen, and to aid them in their future business of life.* This is required, as well by political and moral considerations, as by a desire to keep pace, in the arts of labor, with the improvements of the age. The preservation of our civil rights depends upon the intelligence and independence of the middle class of society—the pecuniary prosperity of our State upon their habits of profitable industry. It is in our common schools that we are to lay the foundation of this intelligence and independence, and to inculcate principles and habits of useful industry.

The reports from our penitentiaries furnish us with two remarkable facts, viz., that of 180 convicts, in the Connecticut state prison, "there is no one who, before his con-

viction, could read and write, and who was of temperate habits, and followed a regular trade"—and that "there never has been, in that prison, a convict who had received either a collegiate or classical education." Volumes could not enforce more strongly the propriety of adopting a high standard of common school instruction, nor urge stronger considerations for multiplying incentives to honest labor. These matters come within the special province of the agricultural class, who must, from their numbers and influence, give the impress to our character, so long as our freedom shall survive. How little is now done in our common schools to instruct the boy in his future business of life, or in his civil rights and responsibilities!

The importance of the middle class of a population, under a free government, is forcibly shown in the following extract, which we make from Sismondi's History of the Fall of the Roman Empire.

"But one effect," says this historian, "of the long duration of states, and of their extended power, is to separate the inhabitants into two classes, between whom the distance is constantly widening, and gradually to destroy the intermediate class, together with which all the social virtues are gradually uprooted and annihilated. From the time that this gulf is once opened between the two extremes of society, every successive revolution does but continue to widen it; the progress of wealth had been favorable to the rich, the progress of distress favors them still more. The middle class had been unable to stand the competition with them during prosperity; in adverse times it is crushed under those calamities which only the wealthy can stand against. The corruption of Rome had begun from the time of the republic, from the time that the middle class ceased to impress its own peculiar character on the whole nation; this corruption increased in proportion as the intermediate ranks disappeared; it was carried to the highest pitch when the whole empire consisted of men of enormous wealth, and populace.

"It is, in fact, in the middle classes that the domestic virtues,—economy, forethought and the spirit of association,—mainly reside. It is in them that a certain degree of energy is incessantly called into operation, either as a means of rising, or of keeping the position already acquired. It is in them that alone the sentiment of social equality, on which all justice is based, can be kept alive. We must see our equals, live with them, and meet them daily and hourly, encounter their interests and their passions, before we can get the habit of seeking our own advantage in the common weal alone. Grandeur isolates a man; vast opulence accustoms each individual to look upon himself as a distinct power. He feels that he can exist independently of his country; that his elevation or his fall may be distant; and, ere long, the servile dependents, by whom a man who spends as much as a petty state is sure to be surrounded, succeed in persuading him that his pleasures, his pains, nay, his slightest caprices, are more important than the welfare of the thousands of families whose means of subsistence he engrosses.

"The morality of a nation is preserved by associating its sentiments with all that is stable and permanent; it is destroyed by whatever tends to concentrate them on the present moment. So long as our recollections are dear to us, we shall take care that our hopes be worthy of them; but a people who sacrifice the memory of their ancestors, or the welfare of their children, to

the pleasure of a day, are but sojourners on a country—they are not citizens."

3. *A portion of public money may be usefully applied in aid of county agricultural societies, to call forth talent and to excite industry.* Of the salutary effects of premium rewards, for skill and enterprise in agricultural improvement, we have testimony enough in the experiment which our State made in 1817, and which is yet exerting a beneficial influence among us. We see it confirmed also in the States which surround us, some of which have for a long time been liberal of their funds to this object, while others, yet in their infancy, have recently began to copy the provident example. There is no country which has made greater advances in improved husbandry, during the last fifty years, than Scotland, and there is none perhaps which now excels her. Her Agricultural Society has been in existence about fifty-one years, and in that time has distributed, to the tillers of the soil, premiums to the value of about half a million of dollars. The value of her agricultural products has been augmented, in the mean time, several millions annually. Who will deny, that her premiums have contributed largely to bring about this wonderful improvement in Scotch husbandry? The remarks of Chaptal upon this subject, inserted in our October number, are so pertinent and forcible, that we beg leave to refer to them, as further illustration upon this head.

4. *We want better Common Roads.*—The existing laws are defective, or they are not faithfully executed. Nothing tends so rapidly to improve and enrich a district, as good roads. The profits of agricultural labor, as well as the stimulants to industry, are increased by every new facility for transporting its products to market. The attention of our legislatures has been so much engrossed by party politics, private claims and monied incorporations, as to leave little time to deliberate upon the matter, and to digest a better system. In truth, a goodly portion have been strictly political or professional gentlemen, whose study has been more to improve the road to office, and the road to preferment, than the common roads of the farmer. Plans of improvement have been suggested, and we are advised that some of these will probably be submitted.

5. We have a formidable enemy in the *Canada Thistle*, which it requires the united efforts of all landholders to put down, aided by legal penalties. Lastly,

6. The serious depredations of the *Grain-worm* upon the wheat crop of some districts, and the apprehended danger that it will extend itself over the State, is a matter highly worthy the consideration of an Agricultural Convention.

We have thus suggested some prominent subjects which may engage the attention of an Agricultural Convention, of manifest importance to the farmer and the public. Whether all or any of them will be discussed, it is not our province to say. And we will close our already too protracted remarks, by calling upon the agricultural interest in the several counties to weigh the matter with all deliberation, and if they concur with us in the belief, that much good may result from the proposed meeting, to give it their cordial and efficient support. We would in particular address those who are just entering upon the stage of business life—who are anxious not only to acquire fortunes, but reputations for public usefulness, and who are to give a character to our agriculture in coming years. "Nothing," said an ancient sage, "can be more despi-

cable than an old man, who has no other proof of having lived long in the world than his age." "It should be the object of our ambition that we should all signalize the period of life allotted to us, by some exertion, either mentally or bodily, which may be useful to mankind, and give us a claim to their remembrance, to their respect, and to their gratitude."—[Cultivator.]

The following short treatise on the Management of a Kitchen Garden is from the pen of Charles F. Crossman, a member of the Society of Shakers. In it will be found much that is useful, at least to some of our readers.

MANAGEMENT OF A KITCHEN GARDEN.

Previous to commencing the work of the garden, a few matters essential to success should be particularly attended to. In laying out a garden on an oblong form, it will generally be found most convenient to have the rows of vegetables run lengthwise of the garden, so that the plough or cultivator may run through freely, without interruption, allowing an alley at each end for the horse and plough to turn round upon: The ground should be ploughed or dug to a good depth, especially for long rooted plants, and be well incorporated with rotten manure or rich compost. The essential advantage of deep ploughing is not only best calculated to give room for the roots to expand freely, but the crops on a deep ploughed soil will be much less liable to injury from the extremes of wet and dry weather. Every garden should have a good supply of well rotted manure or old compost, ready for use when wanted; also a portion of soot, tobacco dust, ashes and lime, for the purpose of scattering over seed beds and hills of plants in dry weather, to destroy insects, which often cut off the young plants as fast as they come up.

The next matter of importance is, to work the ground and put in the seed when it is in proper order to receive it. A light, sandy soil will be benefitted by working it when moist, as this will have a tendency to make it more compact, and better adapted to retain its moisture; but if a clay soil be worked when too wet, it will become hard and stiff, and not only prevent the seeds from rising freely, but materially injure the plants in their subsequent growth. Rolling or pressing the earth over the seeds, will tend greatly to promote their vegetation, especially when the soil is loose and dry; but when moist and heavy, if done at all, it should be done very lightly.

If the ground be very dry at the time of sowing, let the seed be soaked a few hours in water strongly impregnated with sulphur or soot, and keep the ground moist by frequent watering: This will have a great tendency to forward the vegetation and prevent the ravages of insects.

Transplanting is generally attended with the best success when performed immediately after the ground has been newly ploughed or dug; as it will then work light, and the moisture arising from newly stirred ground is highly beneficial to the growth of young plants. If the soil of the bed be dry when the plants are to be taken out of it, let it be watered freely, and then raise the plants carefully with a trowel or a flat-pointed stick; and before setting them out, dip the roots into a mixture of rich mould or rotten manure and water, with the addition of a little lime or ashes, and reduced to the consistence of thick whitewash. This preparation is found highly beneficial to the

young plants of cabbage, turnips and others when transplanted, by promoting their growth and preventing their roots from being injured by destructive insects. In setting young plants, the earth should be pressed a little over the roots, and raised around the stem, sufficient to support the plant, and prevent it from falling or leaning aside. The ground should be stirred often, and kept loose and light by frequent hoeing through the season.

A good garden, well supplied with useful vegetables, in a healthy, thriving state, kept neat and clean from weeds, affords a striking evidence that the cultivator possesses a good portion of wisdom and economy, and is attentive to his business; but when I see a garden containing a small quantity of such as are evidently from good seed, promiscuously planted, without order or regularity, faintly struggling among the weeds for existence, I readily conclude that the proprietor's mind needs cultivation, and that some noxious weeds of domestic or foreign growth have taken deep root there, which will require the strong hand of an industrious and persevering cultivator to eradicate.

The numerous benefits afforded to a family from a well cultivated garden are too little considered by many of our country farmers, for their own interest and the health and prosperity of their families. The cheap and healthy varieties which may be furnished, (much less expensive, and far more healthy than the same quantity of meat without vegetables,) the pleasing and healthy exercise and enjoyment attending their cultivation is beyond description: indeed the cultivation and produce of a good garden are the life and health of a family, upon every principle of rational enjoyment and temporal economy.

1. *Asparagus. F. Asperge. S. Esparago.*—This is a very delicious vegetable, and easily cultivated, after the first operation of preparing the ground. It requires some of the deepest soil in the garden: a rich, sandy loam is the best. The ground should be trenched or spaded up, and a plenty of rotten manure well mixed into the soil to the depth of one foot and a half. Then mark out your beds six feet wide, forming two feet alleys around them, by throwing up six inches top soil on the beds. Next use the rake and hoe, till the ground is well pulverized and made level and smooth. Then mark out your drills one foot apart and two inches deep. Soak the seed twelve hours in warm water; drop it about one inch apart in the row; rake it in, and press the soil over the seed with a board or garden roller. When the young plants are up, hoe them carefully, and keep them clear of weeds through the season. After the second hoeing, pull out the weakest plants, leaving them about four inches apart.

A bed of asparagus, well managed, will produce buds fit for cutting the third spring after sowing. The buds should be cut one inch or more below the surface of the ground. The cutting may be continued until the first of July; then let it grow up, but hoe it frequently till it covers the ground.

Spring dressing. As soon as the ground is dry, so as to work light, separate the stalks from the ground with a hoe, cutting them, off beneath the surface, and loosen the surface of the ground all over the beds. Some dry straw, little or fine brush may be added to these stalks when dry, and the

* The French and Spanish names of the various vegetables are added to our common English names, and marked with the letters F. and S., for the information of foreigners who purchase our seeds.

whole burnt together on the ground. This will promote the growth of the asparagus, and destroy many insects' eggs, seeds of weeds, &c. The ground should then be covered one inch or more with rotten manure or compost, well incorporated with the soil above the roots; then rake the beds smooth and level. An application of swamp earth, salt or brine spread on the beds, has been found to promote the growth of asparagus.

Though this vegetable grows naturally in a poor, sandy soil, yet the sweetness and tenderness of the buds depend much on the rapidity of their growth, which is greatly promoted by richness of soil and good attendance. Beds of asparagus may be formed by preparing the ground, as before stated, and transplanting the root of two or three years' growth, setting them with the crown upwards, four inches below the surface.

A good bed of asparagus, if well attended to, will flourish many years; ours occupies one-eighth of an acre of land, the greater part of which has been planted more than forty years, and is now as good as ever.

Directions for cooking asparagus. Cut the buds when from three to six inches high; clean them well in cold water, cutting off most of the white part, as that which grows beneath the surface of the ground is apt to be tough and bitter. Take water enough to cover the stalks, and put in salt sufficient to season them well; boil and skim the water, then put in the asparagus. Be careful to take them up as soon as they become tender, so as to preserve their true flavor and green color; for boiling a little too long will destroy both. Serve up with melted butter or cream.

2. Beans. *F. Feve. S. Haba.*—A dry, warm soil, tolerably rich, is the best for beans. The ground should be worked fine and mellow. Plant, for early use, from the 20th of April to the 1st of May. The early kinds may be planted in drills two and a half feet apart, and at the distance of three inches in the row, or in hills a foot apart.

The *Early Purple* is the earliest bean, and consequently preferred for early use. The *Early China* and *Early White* are excellent, either for stringing or shelling; they will be fit for use, if the season is favorable, in about six weeks for planting. The *Royal White* is a large, rich bean, excellent for shelling. This kind should be planted in rows three feet apart, and if in hills, two feet from each other, with four beans in a hill; if in drills, six inches apart in the row. The *Running* or *Polé Beans* should be planted in hills, three and a half feet distant each way. They should be planted as early as possible, in a rich, mellow soil. We prefer setting the poles before planting. For this purpose we stretch a line, and set the poles by it; then dig and loosen the earth, and drop five or six beans in a circle round the pole, about three inches from it, and cover with mellow dirt one inch or one and a half in depth. When the plants are well up, stir the earth around them, and pull out the weakest plants, leaving three to each hill. This should be done when they are perfectly dry; for beans never should be hoed when wet, nor when any dew is on them.

The green pods of beans may be kept and preserved fresh by laying them down in a jar or tub, with a layer of salt between each layer of beans.

3. Beet. *F. Betterave. S. Betarraga.*—Prepare your ground as early in the spring as it will work light and mellow, by ploughing or digging to the depth of eighteen inches. A deep rich soil produces the finest roots. If a small bed of the earliest kinds

is sown as early as the season will admit they will be fit for use in June. After making your beds fine and smooth, mark out the drills eighteen inches apart, and one inch deep; drop the seeds along the drills, two inches apart; cover them, and press the soil a little over the seeds. When the plants are up and sufficiently strong, thin them to the distance of six inches apart in the rows. The ground should be often hoed round the plants, and kept free from weeds. Beets for early use, should be sowed about the first of May; for winter use, two or three weeks later, the beds kept clean through the summer, and the roots taken up before hard frosts in the fall. Care should be taken in cutting off the tops, not to injure the crown.

A good method of preserving beets fresh through the winter is, to lay them in a circular form on the bottom of the cellar, with the roots in the centre and heads outward; cover the first course of roots with moist sand; then lay another course upon them, and cover with sand as before, and so on till all are packed and covered.

The *Mangel Wurtzel* and *Scarcity Beet*, also the *Yellow Swedish* or *Ruta бага* turnip, are often raised to great perfection by field culture, for which we give the following directions:

Field culture. Select a deep mellow soil; if not sufficiently rich, make it so with well rotted manure, thoroughly mixed with the soil to the depth of a foot or more. This should be done by ploughing and harrowing when the ground is in good order to work light and fine. You may then throw up moderate ridges with the plough, about the distance of three feet apart. Pulverize and level the top of the ridges with a rake. Then, with a dibble or with the fingers, make holes on the centre of the ridge, two inches deep, and eight inches apart; and for beets, drop two seeds in each hole, and cover with fine dirt, pressing it a little over the seed. For the *Swedish* or *Ruta бага* turnip, we generally prefer sowing the seed in a bed of light, mellow soil, from the 1st to the 10th of July. After having attained a sufficient size for transplanting, the ground being prepared as above directed for beets, set the plants about ten inches apart in the row; while the plants are young, the ground should be often stirred around them, and kept clean from weeds through the season. The horse plough should be often used between the rows, especially in dry, hot weather.

The average crop of these roots, on good land, with proper management, is about fifteen tons to the acre. The quantity of seed required for the *mangel wurtzel* or *scarcity beet*, is about four pounds to the acre; for the *Ruta бага* or *Swedish turnip*, about one pound and a half. To quicken vegetation, the beet seed in particular, should be soaked twenty-four hours in the water.

There are various methods of field culture recommended and practised by different people. Some sow the seed broadcast; others in rows on level ground, from ten inches to four feet apart; some sow or transplant on moderate ridges, and others on very high ridges. But those who have had most experience in this branch of agriculture, will doubtless find their own experience and judgment the most successful guide; and those who have not, may follow the directions we have given, with such deviations as the nature, situation and circumstances of their soil, according to their best judgment, may require; and experience will doubtless prove the best teacher in the end.

These roots are highly and justly recommended for feeding milch cows in the fall and winter, & especially in the spring, if well preserved; also for fattening beef and pork. If fed in the raw state, they should be cut fine; if boiled, a little Indian meal or bran may be mixed with them.

4. Cabbage. *F. Chou. S. Col.*—This vegetable requires a light, rich, and rather moist soil. The seed may be sown about the middle of May, either in a bed for transplanting, or where they are intended to grow. The transplanting should be done when the ground is light, just before a shower, or in cloudy, moist weather, but never when the ground is wet and heavy. Before transplanting, dip the roots into a mixture made of rich mould and water. They should be hoed often while young, at least twice a week; the best time for hoeing is when the dew is on. If lice should appear on the plants, wet them with a strong decoction of tobacco, put on with a small brush, or rubbed on with the hand.

Cabbage should be secured before very cold weather, and their roots buried in the dirt; but never let them rot in a cellar under your dwelling house, unless you wish to destroy the health of your family.

5. Cauliflower. *F. Chou fleur. S. Cauliflor.*—This requires the best of rich, light soil. The early kind is most suitable for this climate. It should be sown about the 20th of September, for spring use; and it requires much care to keep them during the winter. For fall use, they may be sown in a hot bed in March, or in the open ground about the 20th of May. They should be protected from the northwest winds by walls or hedges, and great pains must be taken in every stage of their growth, as the extremes of heat and cold operate very unfavorably upon them.

To cook Cauliflower. Cut it when close and white, and of a middling size; cut the stem so as to separate the flower from the leaves below it; let it lie in salt and water a while; then put it into boiling water, with a handful of salt. Keep the boiler uncovered, and skim the water well. A small flower will require fifteen minutes boiling—a large one, about twenty. Take it up as soon as a fork will easily enter the stem; a little longer boiling will spoil it. Serve it up with gravy or melted butter.

5. Carrot. *F. Carotte. S. Zmahoria.*—The long orange or red is generally preferred, both for garden and field culture: the short orange is the earliest and deepest color.

Soil. Carrots require a light, mellow soil, with a mixture of sand. The ground should be dug or trenched deep, and well broken up, in order to give plenty of room for the roots to penetrate into the soil; it should also be made fine, smooth and level.

Sowing. As the seeds have a fine, hairy furze on the borders or edges, by which they are apt to cling together, they should be well rubbed between the hands in order to separate them. To forward vegetation, they should be soaked in warm water about twenty-four hours, and then mixed with dry sand, so as to separate them as much as possible in sowing. They should be sown in a calm time, and scattered as equally as possible.

The seed should be sown in drills about an inch in depth; the rows from eighteen to twenty inches apart, so as to give plenty of room to hoe between them. Some recommend from nine to twelve inches, and others from eight to ten: this may answer in small family gardens, where the land is scarce; but where there is a sufficiency of ground, the carrots are more easily cultivated.

ted, and will thrive better and grow larger at a greater distance.

Field Culture.—The best soil for field carrots is a deep, rich, sandy loam. To obtain a good crop, the soil should be a foot deep at least, and well prepared by very deep ploughing and thorough harrowing, so as to make the ground perfectly mellow, smooth and level. It is a matter of importance to wet the seed and cause it to swell, so as to hasten vegetation; because the weeds are apt to start very quick after sowing, and if the seed is not quickened, the weeds will get up and overpower the carrots, before they get large enough to hoe. The seed may be sown in drills, as directed for garden culture or on moderate ridges, from two to three feet apart, and cultivated between the rows with a horse plough. In hoeing, they should be thinned to three or four inches apart in the rows. Two pounds of seed is considered sufficient to sow an acre of ground in drills two feet apart.

Carrots are excellent for fattening beef, and for milch cows, horses are remarkably fond of them. When cut up small, and mixed with cut straw and given them, with a little hay, it is said they may be kept in excellent condition for any kind of ordinary labor, without any grain.

7. Celery. F. Celeri. S. Apio.—The *White Solid* is considered the best kind of celery. We have had the best crops by sowing the seed the latter part of March, in a hot bed. After the plants have attained the height of about six inches, they may be transplanted into trenches. Select for this purpose, a piece of rich ground, in an open exposure; lay out your trenches about eighteen inches wide, allowing six feet space between each trench; plough or spade out the earth from the trenches to the depth of sixteen or eighteen inches, if the depth of soil will admit; put about three inches of very rotten manure into the trench; then throw in upon this manure about five inches of the best soil; mix and stir the manure and soil well together; then set your plants by a line in the centre of the trench, leaving a space of four inches between each plant. If the weather be dry, water the plants freely. They should be shaded till the roots strike and the plants begin to grow; the covering should be taken off at night.

When they have attained the height of ten inches, you may commence earthing them up; but never do it while the plants are wet. In performing this, care should be taken to gather all the leaves up with the hand while drawing the earth up equally on each side of the row, being careful to leave the hearts of the plants open. Repeat the earthing once a week or oftener, till about the last week in October; then bury the whole with dirt, to remain till time of digging.

Celery may also be raised by sowing the seed in a rich, moist soil, and removing it into trenches as before directed; or by sowing it in the trenches where it is to grow. As the seed vegetates very slowly, it should be soaked, in warm water for twenty-four hours before sowing. To preserve it through the winter, dig it before the ground freezes deep, and pack it away in casks or tubs with dry sand, and keep it in the cellar. Some recommend to cover the ridges with boards, and dig the celery as it is wanted for use. This may answer in a dry, sandy soil; but in a wet or moist soil it is apt to rot and spoil.

8. Corn. F. Mais. S. Maiz.—The *Early Canada* is the earliest kind of corn we raise, and is preferred only for being several weeks earlier than the common field corn. The *sweet* or *sugar* corn is the best

for cooking in its green state, as it remains much longer in the milk, and is richer and sweeter than other kind. It is rather later than the common field corn, and is therefore fit for the table when the field corn has become too hard. Alluvial, or any gravelly or sandy soil, if made sufficiently rich and properly cultivated, will produce a rich crop. It should not be planted till the weather becomes settled and warm, and the soil sufficiently dry. It may be planted in hills, like the common field corn, or in a garden in drills, like broom corn; as in this way a larger crop may be produced from the same quantity of ground. Care should be taken that no other kind of corn be planted near it, as by intermixing, it will soon become adulterated and injure the crop. This corn may be preserved for winter use, by par-boiling it when green, and cutting it from the cob and drying it in the sun. It then affords a wholesome and agreeable dish when cooked like bean porridge, or what is called *succotash*.

9. Cucumber. F. Concomber. S. Cochambro.—The early kinds are most suitable for early planting. For the purpose of obtaining them very early, some plant the seed in a hot bed, or in elevated hills, well manured with rotten horse-dung, and covered with glazed frames. But in order to grow fair, handsome cucumbers, the soil should be rich, light and warm, and well mixed with rotten manure; or a good shovel full may be put into each hill, and thoroughly mixed with the soil in the hill. We generally plant the early kinds about the first of May, in hills about four feet apart each way, elevating the hills a little above the level of the ground. Put in six or eight seeds into each hill, and cover them half an inch deep with fine dirt, and, as in all other planting, press the earth a little over the seeds with the back of the hoe.

When the plants are up, examine them closely, as they are frequently attacked by the yellow bug or fly. To prevent this, take rye flour, sifted ashes and ground plaster, equal parts of each, well mixed together, and dust the plants all over with it. If the plants are dry, sprinkle them with water before you dust them. Snuff, tobacco dust, or the stalks boiled in water, soot, or a decoction of elder and walnut leaves, are all very good to prevent small bugs and insects from injuring any young plants. Keep the ground loose and clear of weeds, and in dry weather, water your plants freely. After they have attained a vigorous growth, and the danger from insects is over, they may be thinned out, leaving two of the most thrifty in a hill.

Those intended for pickling may be planted from the 10th to the 20th of June. If the soil is rich and warm, the 20th is preferred. The long kinds are preferred by some for pickles. The cultivation and management of these is the same as the others excepting that the hills should be at least five feet apart each way. Some gardeners recommend nipping off the first runner bud of cucumbers and melons, from an idea that they will become more stocky and fruitful.

10. Lettuce. F. Laitue. S. Lachuga.—Lettuce requires a mellow soil. It should be sown as early in the spring as possible; to insure a very early supply, it may be sown late in the fall—it will then start early in the spring; but to obtain a constant and regular supply through the season, it should be sown broad-cast, moderately thin, or in rows from twelve to eighteen inches distant, according to the usual size of the different kinds. Rake in the seed lightly, with a fine tooth garden rake. When the plants are up, stir the ground lightly while

it is dry, and clear out the weeds: thin the plants where they crowd each other. Those intended for large heads should stand eight or ten inches apart: the hardy kinds, such as the *early green*, *early curled*, and *ice coss*, may be sown in September, and covered with straw at the approach of severe weather. Or any kind may be sown in a hot bed in March, and transplanted in the open ground at the proper season.

11. Melon. F. and S. the same.—This plant requires a warm gravelly or sandy soil, made very rich with well rotted manure from the hog-pen, or rich old compost, well mixed with the soil. The hills may be formed after the manner recommended for cucumbers. But if the natural soil is not sufficiently warm for melons, then dig a hole of sufficient size, and put in a large shovel full of rotten horse dung; upon this put the compost or rotten hog dung, with a quart of slacked lime: then add some good mellow soil, and mix it up well on the surface without disturbing the horse dung at the bottom. The hills may be made from six to eight feet apart: for water melons, on rich, warm land, where they grow most thrifty, nine feet is near enough.

Plant about the middle of May, if the weather be warm and the ground in good order. The seed should be soaked a few hours in warm milk and water, with a little soot in it. Put six or eight seeds in a hill, and cover half an inch deep. When the plants become strong and thrifty, so as to be out of danger, pull out the weakest, leaving only two in each hill; indeed one would always be sufficient, if secure from all accidents. The ground should be often hoed round the hills, and kept loose and light. If you would raise good melons, you must plant them remote from any other vines; for in the vicinity of cucumbers, squashes, pumpkins, gourds and the like, they will infallibly degenerate. In this respect, therefore, they require great care and attention. To secure them from the ravages of insects, pursue the directions given for cucumbers.—[See cucumber]

(To be continued.)

The most remarkable result of barometrical measurement was recently obtained by Baron Von Humboldt, showing that about 18,000 square leagues of the north-west of Asia, including the Caspian Sea and the Lake of Aral, are more than 320 feet below the level of the surface of the ocean in a state of mean equilibrium. This enormous basin is similar to some of those large cavities on the surface of the moon and is attributed by Humboldt to the upheaving of the surrounding mountain chains of the Himalaya, of Khen-Lun, of Thion Chan, to those of Armenia, of Etzerum and of Caucasus, which, by the undermining of the country to so great an extent caused it to settle below the usual level of the sea. The very contemplation of the destruction which would ensue from the bursting of any of those barriers which now shut out the sea, is fearful.—[Mrs. Somerville.]

MEXICO.—According to the New Orleans Bee of 24th ult., the closing of the Mexican ports, heretofore alluded to, was only a partial and not a general measure, and had not been sanctioned by the Central Government. The Bee adds, "the ports of Mexico are now open to our trade, and greater tranquillity prevails in that country, than we had anticipated."

SUMMARY.

From the New-York American.

COMMERCE OF FRANCE.—In the Journal des Debats of 27th Nov., we find an examination of the official Custom House returns of the commerce of France for 1834, the results of which are presented in the annexed tabular form.

Table of the Imports and Exports of France.

Countries whence imports, and to which exports, are made.	Value of merchandise imported in France.	Value of merchandise exported from France.
	fr.	fr.
Russia	17,600,028	6,910,547
Norway	10,617,146	1,329,792
Prussia	12,511,543	7,025,988
Hanseatic Cities	4,307,259	10,447,935
Holland	7,271,521	18,743,308
Belgium	51,539,536	37,661,917
England, including Gibraltar, Malta and the Ionian Isles	27,095,060	62,431,586
Spain and Canaries	21,254,133	33,130,881
Sardinia	82,816,232	30,335,984
Sicily	11,039,548	5,939,629
Switzerland	12,713,326	29,835,960
Germany	21,495,133	36,079,117
Turkey & the Archipelago	10,835,093	10,591,614
British India and S. Wales	16,238,001	4,392,508
United States	76,563,795	78,136,275
Brazil	6,212,938	18,357,103

Annexed to this table, are the following observations, which we translate, of the writer in the Journal des Debats. "What will first attract notice in this table, are the columns which indicate the importance of our commerce with the United States. We were prompted to look into the returns for 1833, to ascertain our then relations, and we found that the importations thence into France amounted to seventy-three millions eight hundred and eighty-five thousand francs—not varying much from those of 1834; but our exportations thither reached one hundred and seven millions, nine hundred and eighty-four thousand francs. It is reasonable to suppose that the apprehensions of war between the two countries, have had their full influence in bringing about so striking a reduction of our exports: but even in the actual amounts stated in the above table, enough exists to show to each, how much they would lose by a bloody controversy: and this consideration alone will keep them at peace. At least it is fair to assume this ground, until it shall be demonstrated, that of two alternatives, the most absurd one is that, which two great nations must necessarily embrace."

Copy of General Rule adopted by the Supreme Court, 5th January, 1838.

"When a writ shall be brought, pursuant to 2 R. St., 457, §1, by a foreign corporation, security shall be given by Bond, executed by two persons, in the penalty of \$500, conditioned to pay all costs which may be awarded to the defendant, which bond shall be filed with the writ or declaration, by which the suit shall be commenced. The defendant may except to such securities, and they shall justify according to the practice. 2 R. St., 620."

Gov'r. Ritner, of Pennsylvania, has vetoed a resolution passed by both houses, for the purchase of certain locomotive engines for the Columbia and Portage Rail Ways. This proceedings appears to have produced considerable excitement at Harrisburg, and upon a motion to print an extra number of copies of his Excellency's message on the subject, considerable debate ensued; the motion, however, was carried by a vote of 41 to 25.—[N. Y. Amer.]

IMPORTANT DISCOVERY.—Peter Ritner, Esq., of Kithus Clearfield co., Pa., has succeeded in making iron with mineral coal. This iron has been tried, and pronounced by iron masters to be of an excellent quality.—[Ib.]

It is stated in the Boston papers, that the Independence 74, in Charlestown Navy Yard, is about being raised into a frigate of the larger class, to mount 64 guns. The sloop of war Boston, of 24 guns, is nearly ready for sea, at the same yard.

The Philadelphia papers announce with every manifestation of regard and regret, the death, after a very short illness, of Robert Vaux, one of the Justices of the Common Pleas of that city, but better known here, and elsewhere, as the intelligent and indefatigable friend, and promoter, of every plan designed to improve education, restrain crime, and augment individual and national happiness.

Two men, Russell and Crockett, convicted of arson in Boston, have been sentenced to be hung.

BANK OF THE UNITED STATES.—At an election, on the 5th instant, the following gentlemen were

chosen Directors of the Bank of the United States for the ensuing year:

Nicholas Biddle, Thomas Cadwalder, Daniel W. Cox, Manuel Eyre, John Bolden, Ambrose White, John R. Neff, Caleb Cope, William Platt, Robert Ralston, Jr., Alexander Henry, Charles A. Davis, of N. Y., Matthew L. Bevan, Roswell L. Colt, of N. Y., Richard Willing, James Swan, of Maryland, Joshua Lippencott, John M'Kim, Jr. of Maryland, Henry Pratt, Wm. Drayton, of S. C.

And at a meeting of Directors, held the 6th, N. Biddle, Esq., was unanimously re-elected President.

MAIL ROBBERIES.—Some weeks ago, it was discovered that a depredation had been committed on the great mail between Maysville, Ky., and Zanesville, Ohio. A prompt investigation was made, and we learn with pleasure has resulted successfully.

A driver of the name of Reynolds and his confederate Wickerham, a storekeeper, it is said, at Sinking Spring, Ohio, have been arrested. Reynolds has confessed, and delivered up money and drafts. They were immediately taken to Columbus, where the Court of the United States being in session, they have been indicted.

At the same Court, Smith, a mail robber heretofore indicted, was convicted.—[Wash'n Globe.]

EXPERIMENT ON A DRUNKARD.—Ignition of human blood.—An experiment was recently made in Berwick, (Maine) by a student of medicine, on the blood of a common drunkard. The sot had probably swallowed two gallons of rum during the previous five days, during which time he had taken little or no food. The student remarked to him that he was in danger of perishing by spontaneous combustion, and stated that his blood was so much encumbered by alcohol that it could be ignited.—The drunkard asked to be bled. A pint of blood was taken from him. A bowl containing this blood was handed to one of the spectators, who ignited a match, and on bringing it in contact with the contents of the bowl, a conflagration ensued, burning with a blue flame for the space of twenty-five or thirty seconds.

[From the Albany Argus.]

ONONDAGA SALT SPRINGS.—The annual report of the superintendent of the Onondaga salt springs, and the inspector of salt in Onondaga county, made to the Senate on Saturday, exhibits the following results: Quantity of salt manufactured and inspected during the year 1835, bu 2,209,867 38-56. Amount of duty collected, \$132,792. Amount paid into the treasury, 121,856 28. Expenses of pumps, &c., 6,130 60. Collected for pumping, 4,445 67.

LOWER CANADA.—To judge by the newspapers this province of the British Empire is on the eve of a revolution. The line of demarcation, which has for some time been rapidly manifesting itself, between the British settlers and the native French population, is now so distinct, that the British settlers are called upon by ardent writers in the newspapers, both of Montreal and Quebec, to refuse the payment of taxes, "because they are not represented," the Canadians having elected a great majority of their own countrymen to the Legislature.

Lord Gosford, the new Governor General, is charged with partiality for the Canadians and every thing that is French.

We infer, however—looking on as a spectator merely—that strict impartiality on his part is construed, by those who have heretofore been the petted party, into partiality for their opponents.—At any rate the Governor General does not apprehend any difficulties, and thus cavalierly declines the aid of a volunteer rifle corps, raised "to preserve the constitutional rights of British subjects in Canada."

Castle of St. Lewis, Quebec, Dec. 28, 1835.

Gentlemen,—I have received and laid before the Governor in Chief your memorial dated the 23rd instant, in which, on behalf of yourselves and others, you pray the sanction of His Excellency to the organization of eight hundred effective men, in Montreal, under the appellation of the "British Rifle Corps," for the purpose of assisting, as far as may be in your power, to preserve inviolate the connexion which exists between Great Britain and Lower Canada, and to maintain unimpaired the rights and privileges confirmed to you by the Constitution.

I am desirous to acquaint you in reply, that the

connexion and the rights which you mention, are not considered by His Excellency to be in danger; and that, if they were, their safety would be best provided for by the authority of the Government, and not by the formation, in a time of entire peace, of an armed corps at the instance of private individuals. Such a measure is calculated not to promote the good purpose you state you have in view, but on the contrary to endanger the public tranquillity, which, His Excellency desires me to assure you, he is resolved to maintain against all attempts, from whatever quarter proceeding, to the full extent of the powers vested in him by law.

I have the honor to be, Gentlemen, your most obedient humble servant,

S. WALCOTT, Civil Secretary.

Francis C. T. Arnold, M. D., Francis Hunter, Robert Weir, Jr., Aaron Philip Hart, Robert Mackay, Esquires.

This reply was submitted to a large meeting of the corps. Several addresses were made, and it was ultimately resolved that an answer should be transmitted to His Excellency, setting forth at length the numerous grounds which, in the opinion of the inhabitants of Montreal, call for the establishment of an armed body, for the maintenance of British supremacy. The corps still continues to advance in numbers, and are long will be composed of a thousand instead of eight hundred, as was originally contemplated.

Mexico.—The unsuccessful attack by Mejia, aided by an American force, which he took with him from N. Orleans, upon Tampico, has led to the military execution of twenty eight prisoners, taken by the Mexicans on that occasion.

Abhorrent as such cruelty is to every feeling of humanity, it was a fate which those who left their own country to take part in a predatory attack upon a nation with which we are at peace, must have foreseen as possible—and have resolved to risk: there can, at any rate, be no ground for the interposition on the subject of the United States.

List of persons shot at Tampico at 8 o'clock in the morning of the 14th December, 1835.

Arthur H. Clement, of Phila., aged 40 no parents.	
Thomas Whitaker, do	30
Wm. C. Barclay, N. Y.	20
Jacob Morrison, do	21
Edward Mount, do	23
Charles Gress, Penn.	23
Isaac F. Leeds, N. J.	30
Mordecai Girt, Md.	53
David Long, Ohio,	25
Wm. H. Makay, Virginia,	20
Jonas K. Stuart, Vermont,	33
Daniel Holt, Canada,	18
James Cramp, England,	23
Lewis Jacob, do	21
John Martin Ires, do	35
Thomas H. Rogers, Ireland,	23
Daniel Donnelly, do	20
James Farrall, do	23
Auguste Sausseur, France,	22
Demeussent, do	25
Fred. Debois, Dantzic,	24
Fred. Wm. Marier, Germany,	22
Henry Wagner, do	24
John Irish, do	24
Andrews Helm, do	50
George Iselin, do	27
L. M. Bellepont, Hanover,	26
Wm. H. Morris, N. Pro.	28

EXECUTIVE APPOINTMENTS.—Among many of those recently made to, and confirmed by, the Senate, the following are of general interest:

Powhatan Ellis, to be Chargé d'Affaires to the United Mexican States.

R. M. Patterson, to be Director of the Mint.

J. C. Pickett, to be Fourth Auditor.

Franklin Peale, to be Melter and Refiner of the Mint at Philadelphia.

Edward D. Ingraham, Henry Toland, Cheney Hickman, James Rogers, David Henshaw, to be Directors of the Bank of the United States.

In our State and vicinity:

Hiram Perry, Surveyor and Inspector at Albany, vice J. T. Vernon resigned.

J. R. Hardenberg, Surveyor of Perth Amboy, and Inspector of revenue for the port of New Brunswick, vice H. V. Low resigned.

The New York Stock and Exchange Board have appropriated to the Relief Committee \$1000. Fire Department \$250.

A CARD.

TO THE SUBSCRIBERS AND FRIENDS OF THE
RAILROAD JOURNAL, MECHANICS' MAGAZINE, NEW-YORK
FARMER, AND APPRENTICE'S COMPANION;

All of which publications have been delayed *nearly a month*, in consequence of the destruction by the late conflagration of the press and materials with which they were printed. The Editor and Proprietor desires to say, that they will all be again regularly issued in a few days, and forwarded with care and punctuality.

In consequence of the heavy loss sustained by the fire, including not only nearly all my *printing materials*, but also *nearly all my stock of back volumes, sheets, and numbers* of the different publications, and all of my *sterotype plates* of five volumes of the Mechanics' Magazine, I am compelled to ask the indulgence of their patrons for a few days, until I can get a new office arranged, so as to present the works to them improved both in *appearance* and in *matter*—and as I have relinquished the management of the business department of the New-York American, for the purpose of devoting myself exclusively, hereafter, to my publications, I hope to render them more interesting and more useful than I have heretofore been able.

I am also induced by my losses, which amount to over eight thousand dollars, to request each friend of my publications to aid in *extending their circulation*, and of each present subscriber the favor to remit the balance due, if any there be, and in advance for the year EIGHTEEN HUNDRED AND THIRTY-SIX, that I may be able to make the works worthy of increased patronage, and useful to community.

D. K. MINOR, EDITOR AND PROPRIETOR.

New-York, January 15, 1836.

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